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ABSTRACT

The purpose of the Enrichment of Teacher and Counselor Competencies in Career Education Project (ETC Project) was to develop, evaluate, and disseminate: (1) Career Education Curriculum guides which result in the integration of positive values and attitudes toward work, self-awareness, and development of decision making skills; and awareness of occupational opportunities; (2) sample teaching learning modules by fusing and coordinating academic and occupation concepts and utilizing multimedia instructional tools; (3) a design of K-6 career education instructional system adaptable to any elementary instructional program. The project consisted of five phases: (1) search, (2) formulation of objectives, (3) curriculum guides, (4) field testing, and (5) dissemination and utilization. A discussion of the evaluation of the project includes the evaluation instruments. The survey of the findings covers the areas of construct and content validity, administrative feasibility and product usability, and student learning gain. The project's summaries and recommendations are discussed briefly and also the ETC staff impact on career education through various related activities. Appendixes include a master index of infusion strategy content and a 94-page third party evaluation of the project. (Author/BP)

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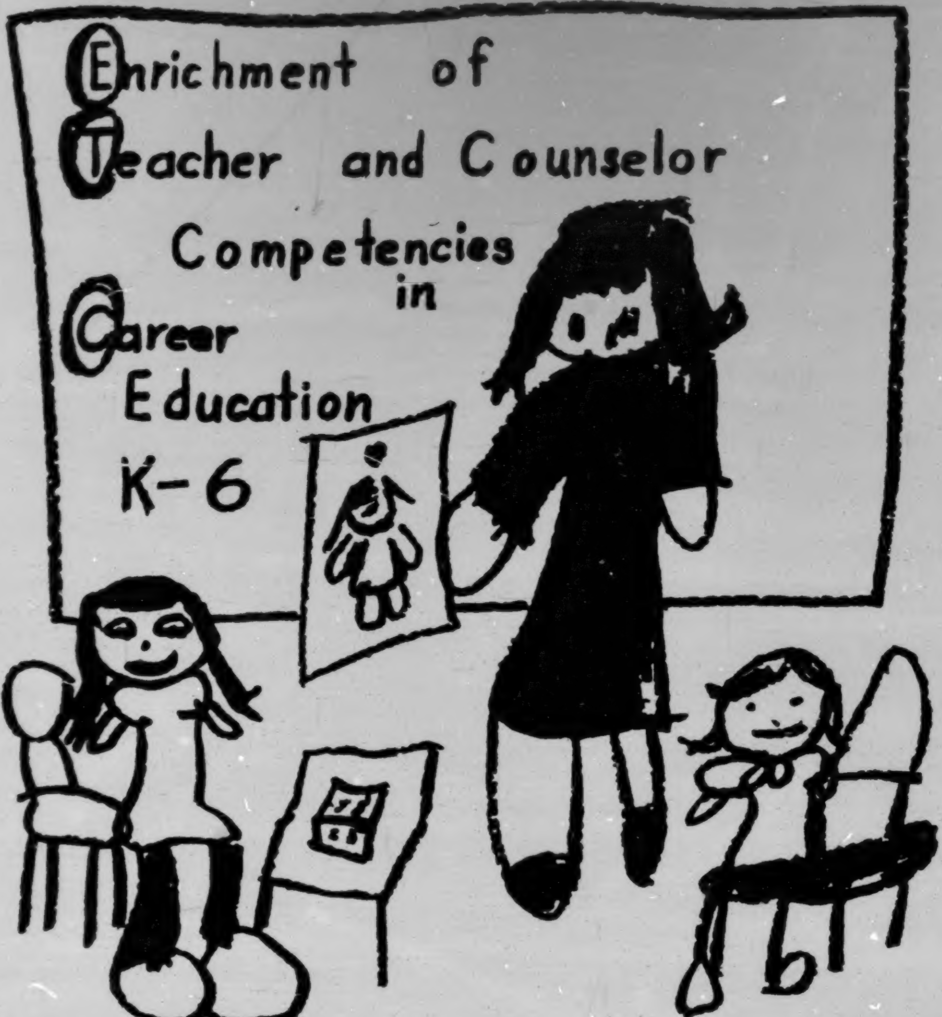
Enrichment of
Teacher and Counselor
Competencies
in
Career
Education
K-6

# FINAL REPORT

Project conducted by The Center for Educational Studies, School of Education, Eastern Illinois University, Charleston, Illinois, under Part I of Public Law 90-576--Curriculum Development in Vocational and Technical Education.

Contract # OEC-0-72-4626

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# Enrichment of Teacher and Counselor Competencies in Career Education: K-6

Final Report

by

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June 1974

The project reported herein was performed pursuant to a contract with the Bureau of Adult, Vocational, and Technical Education, Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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# ABSTRACT

The Enrichment of Teacher and Counselor Competencies in Career Education Project (ETC Project) was funded on June 15, 1972, by The Curriculum Center for Occupational and Adult Education, Bureau of Adult, Vocational, and Technical Education, United States Office of Education. The project was conducted by The Center for Educational Studies, School of Education, Eastern Illinois University, Charleston, Illinois, and was completed on June 14, 1974.

The purpose of the project was to: (1) DEVELOP, EVALUATE, AND DISSEMINATE CAREER EDUCATION CURRICULUM GUIDES that are applicable to any school with grade levels functionally equivalent to K-6 and which result in the integration of positive values and attitudes toward work, self-awareness, development of decision making skills, and awareness of occupational opportunities in career lines within major occupational fields; (DEVELOP, IMPLEMENT, EVALUATE, AND DISSEMINATE SAMPLE TEACHING LEARNING MODULES for the K-6 career education curriculum guides achieved by fusing and or coordinating academic and occupation concepts and utilizing multi-media instructional tools; (3) DEVELOP, EVALUATE, AND DISSEMINATE A DESIGN OF A K-6 CAREER EDUCATION INSTRUCTIONAL SYSTEM which is adaptable to any elementary instructional program and which may serve as an alternative to present career education instructional systems.

The project consisted of five phases: (1) the SEARCH PHASE in which the staff reviewed existing K-6 career education materials; (2) the FORMULATION OF OBJECTIVES PHASE in which the content and processes of career development were organized into seven dimensions: Attitudes and Appreciations, Career Information, Coping Behaviors, Decision Making, Educational Awareness, Lifestyle, and Self-Development; (3) the CURRICULUM GUIDES PHASE in which the writing of the curriculum guides took place; (4) the FIELD TESTING PHASE in which the guides were tested in six schools at four different field testing sites: Beloit, Kansas; Pueblo, Colorado; Springfield, Oregon; and Waukegan, Illinois; and (5) the DISSEMINATION AND UTILIZATION PHASE in which plans were made for mass production and dissemination of project products.

The products that were produced by the project staff include:

1. Career Education K-6, An Annotated Bibliography
2. A Curriculum Design: Concepts and Components
3. Career Education: Designs and Decisions
4. Career Education Guide (K-2)
5. Career Education Guide (3-4)
6. Career Education Guide (5-6)

The three curriculum guides contain a total of 56 infusion strategies which provide a total of 224 activities that integrate career development concepts and subject matter concepts in the areas of mathematics, science, language arts, and social studies. In addition, the guides contain 268 Reinforcement Activity pages (REACT pages) which are designed for K-6 students.

The major finding from the field testing was that the materials can be used in the various settings that were represented by the field testing sites. However, teachers at some sites tended to be more selective and more willing to adapt materials to fit their needs while teachers at other sites tended to use the materials as presented. This is probably fairly representative of what will happen when the materials are made available for mass use. It was the intent of the materials developers that teachers would modify and adapt the materials. However, for those teachers who do not have the time to do so, the materials do provide enough direction for a teacher to begin a career education program.

# CHAPTER I

# THE ETC PROJECT

## Purpose of the Project

The Curriculum Center for Occupational and Adult Education, United States Office of Education, funded two curriculum efforts in June 1972 which were specifically directed toward K-6 career education curriculum development. One of the projects was conducted by the American Institute for Research, Palo Alto, California, and the other project was located at Eastern Illinois University, Charleston, Illinois. Both projects were charged with the responsibility to:

1. DEVELOP, EVALUATE, AND DISSEMINATE CAREER EDUCATION CURRICULUM GUIDES that are applicable to any school with grade levels functionally equivalent to K-6 and which result in the integration of positive values and attitudes toward work, self-awareness, development of decision making skills, and awareness of occupational opportunities in career lines within major occupational fields.

2. DEVELOP, IMPLEMENT, EVALUATE, AND DISSEMINATE SAMPLE TEACHING LEARNING MODULES for the K-6 career education curriculum guides achieved by fusing and/or coordinating academic and occupational concepts and utilizing multi-media instructional tools.

3. DEVELOP, EVALUATE, AND DISSEMINATE A DESIGN OF A K-6 CAREER EDUCATION INSTRUCTIONAL SYSTEM which is adaptable to any elementary instructional program and which may serve as an alternative to present career education instructional systems.

## Need for the Project

By the spring of 1972 the need for a transportable K-6 career education curriculum which could be adapted to fit the needs of local school systems had become apparent. It was at that time that The Curriculum Center for Occupational and Adult Education, Bureau of Adult, Vocational, and Technical Education, United States Office of Education, issued a request to receive proposals for two major K-6 career education curriculum studies. The Center for Educational Studies, Eastern Illinois University, Charleston, Illinois, was selected as one of the two agencies that would conduct a study. An excerpt from the proposal which was submitted by Eastern Illinois University fairly well summarizes the state of the art which was prevailing:

1. Integration of subject matter concepts and career development concepts has not been accomplished to any marked degree. With the exception of exemplary projects located at Taos, New Mexico; Cobb County, Georgia; the OCCUPAC Project, Eastern Illinois University; the Model I Schools; Houston, Texas, Schools; Dallas, Texas, Schools; the Anne Arundel County, Maryland, Schools; the FAIS (Fusion of Applied and Intellectual Skills) Project, University of Florida; the ABLE (Authentic Life-Based Instruction) Project, Northern Illinois University; and perhaps a few other schools and projects, it is not yet the intent to integrate subject matter and career development concepts.

2. Where integration of subject matter concepts and career development concepts have been a stated goal, efforts have been rather fragmented and no articulated program of action has been designed. Two patterns seem to be emerging:

    a. Lists of career development behavioral objectives and performance goals have been compiled with suggestions for how these objectives can be "taught" in various subject matter areas. The result is that career development concepts often become "lost" and meaningless because they are presented in a disjoint fashion.

    b. Lists of subject matter concepts have been compiled with accompanying lists of life-based activities that can be used to teach the subject matter concepts. The result is that many career development concepts never get taught. Although subject matter concepts are a very legitimate concern of elementary teachers, under this approach subject matter dominates.

3. There is a trend at the K-6 level for educators to say, "We've been doing it all along. Let's publish what we've done in a curriculum guide." It is true that certainly some aspects of the world of work have been presented at the K-6 level. However, often the process, product, economic, etc., dimension of the world of work has been studied to the exclusion of the worker!

4. Where K-6 career development leadership and inservice training have been provided, K-6 personnel have been, for the most part, receptive to career education.

5. In many cases where local leadership and inservice training have not been provided, K-6 personnel equate career education with vocational education.

6. In many cases where local leadership and inservice training have not been provided, K-6 personnel feel that career education at the K-6 level will be based on manpower data, and they fear a dehumanizing of the curriculum--rather than the humanizing process for which refocusing of the curriculum is intended.

7. In many cases, elementary teacher educators and elementary teachers and counselors have simply not been consulted on procedures for developing K-6 career education programs. They need to be involved prior to the implementation stage.

8. It is very evident which K-6 programs have not involved elementary education personnel at the development stage. These programs evidence a lack of knowledge about child growth and development, how children learn, and how self-concepts emerge.

9. The conical model for career education (awareness, accommodation, exploration, orientation, preparation) is a generalized curriculum model. It is not an instructional model. Many people are interpreting the conical model (see Figure 1) too literally by viewing awareness, accommodation, exploration, and preparation as mutually exclusive categories which correspond to grade levels. This is not how children develop! STUDY OF SELF, EXPLORATION, AND AWARENESS START AT THE PRE-SCHOOL LEVEL AND CONTINUE ON THROUGH THE GRADES AT AN INCREASING LEVEL OF SOPHISTICATION.

10. A survey of publishers has revealed that a proliferation of K-6 materials which follow a "Who Am I?" format are scheduled for production. Few materials which integrate career development and subject matter concepts are on the drawing boards.

## Organization of the Project

Organization Within the University - The project was an agency of the Center for Educational Studies within the School of Education. Headquarters for the project and all staff offices were housed in Buzzard Laboratory School which permitted ready access to children in grades K-9. Administrative support was received from all levels within the university. The Dean of the School of Education, the Field Services Coordinator for The Center for

Educational Studies, and the President of the University all attended project meetings at various times during the course of the project.

Liaison with Other Career Education Efforts - Close liaison was maintained during the project with the following career education efforts:

1. Career Education Resource Laboratory (Eastern Illinois University)
2. Development of Systematic Approach to Followup Evaluation (Eastern Illinois University)
3. Career Education Curriculum Guides for Agri-business, Natural Resources, and Environmental Protection - The Ohio State University (subcontracted to Eastern Illinois University)
4. Illinois Division of Vocational and Technical Education
5. Illinois Curriculum Management Center
6. Career Awareness Curricula, Materials, and Teaching Techniques for Hearing, Physically, and Visually Impaired Children, Grades K-6 - Office of the Superintendent of Public Instruction (Illinois)
7. Action Goals for the 70's Career Education Committee - Office of the Superintendent of Public Instruction (Illinois)
8. Career Education Editors of major publishing companies
9. National Instructional Television
10. Business and Office Career Education Curriculum Project - Colorado State University
11. Development of Curricula in the Marketing and Distribution Cluster - Contract Research Corporation, Belmont, Massachusetts
12. American Vocational Association - Guidance Division
13. American Personnel and Guidance Association
14. Council of Chief State School Officers
15. Numerous Part D Projects
16. Film Treatment for Career Education Project

Staffing the Project - Since career education involves all segments of a school staff, staff members for the ETC Project had diversified backgrounds. Some staff members provided expertise in several areas. Four full-time staff members and one half-time staff member provided expertise in elementary school education, guidance and counseling, philosophy, anthropology, psychology. history, curriculum, and educational research. Dr. Marla Peterson directed the project and brought to the project prior experience as a project director. Additionally, she brought a strong background of guidance and counseling, vocational education, and research. Dr. Ann Jackson served as materials development coordinator. Dr. Carl Tausig was employed full time as a research specialist. Both Dr. Jackson and Dr. Tausig came to the project from Buzzard Laboratory School at Eastern Illinois University. Dr. Jackson was a first grade teacher in the Laboratory School and Dr. Tausig taught in the sixth grade. Mrs. Janet Sutherland served full time on the project and came to the project after serving [illegible] an EPDA internship program with the Illinois Division of Vocational and Technical Education. Mrs. Judy Barford worked half time as project associate. Mrs. Barford previously taught fourth grade in the public schools.

A functional approach was used by the project staff. Throughout the project, there was input from many resources and at appropriate times the staff worked together as a group. At other times it was beneficial and expeditious for assignments to be delineated and individual effort resulted.

After assessing the skills possessed by the staff, additional individuals were identified to serve in an advisory capacity to the project staff. These individuals represented local school districts, universities, industry, professional organizations such as the National Council for the Social Studies and the American Personnel and Guidance Association, research and development projects, and the United States Office of Education. Individuals providing this assistance included:

1. National Advisory Committee

Frank Burtnett, Director of the National Career Information Center, American Personnel and Guidance Association

Ms. Donna Chiles, Past President, American Personnel and Guidance Association

Dr. Rupert Evans, College of Education, University of Illinois

Ms. Winifred French, DuSable Career Education Project, Chicago, Illinois, Public Schools

Dr. John Jarolimek, Past President, National Council for the Social Studies, University of Washington

Dr. Ronald McCage, Coordinator, Research and Development Unit, Illinois Division of Vocational and Technical Education

Dr. Ferman Moody, Director, Research Coordinating Unit, Pennsylvania State Department of Education

Roman Pucinski, Former Member, House of Representatives, Congress of the United States, and presently Alderman, Chicago, Illinois

2. Ad Hoc Information Team

Larry Blasch, IBM Corporation, Springfield, Illinois

Sandy Boll, Classroom Teacher, Sullivan, Illinois

Frances Falen, Classroom Teacher, Buzzard Laboratory School, Eastern Illinois University

Marlys Hanson, Career Education Project Director, Soccorro, New Mexico, Public Schools

Robert Jervis, Career Education Project Director, Anne Arundel County, Maryland, Public Schools

Dorothy Lawson, Teacher Educator, Eastern Illinois University

William Reynolds, Coordinator, Professional and Curriculum Development Unit, Illinois Division of Vocational and Technical Education

Joel Smith, Director, Cobb County Occupational and Development Program, Marietta, Georgia

Michael Zockle, Director, Career Education Project, Warren, Ohio, Public Schools

3. In addition to serving in an advisory capacity to project staff during the development of the curriculum guides, the following people served as guest lecturers for a lecture series which was open to all university students and faculty.

Joel Smith, Director, Cobb County Occupational and Development Program, Marietta, Georgia

Rupert Evans, College of Education, University of Illinois

Donna Chiles, President, American Personnel and Guidance Assciation

John Jarolimek, Past President, National Council for the Social Studies, University of Washington

Louise Vetter, Research Specialist, The Center for Vocational and Technical Education, The Ohio State University

Alan Sloan, Executive Vice President, Sutherland Learning Associates, Los Angeles, California

Michael Zockle, Director, Career Education Project, Warren, Ohio, Public Schools

Lowell Burkett, Executive Director, American Vocational Association, Washington, D. C.

Bertram Caruthers, Assistant to the Superintendent, Kansas City Public Schools, Kansas City, Kansas

Ed Houck, The Center for Vocational and Technical Education, The Ohio State University

4. Business and Industry Advisory Committee

Betty Boyer, Publisher, Coles County Times Courier, Charleston, Illinois

Linda Stokes, Secretary, Tulin Law Office, Charleston, Illinois

William Dittamore, Business Agent, International Brotherhood of Electrical Workers, Local 489, Mattoon, Illinois

Tom Everett, Everett's Sporting Goods, Charleston, Illinois

5. Buzzard Laboratory School teachers reviewed materials during various stages of development.

6. Field testing teachers, students, and administrators in the following schools:

Cooke Elementary School, Waukegan, Illinois

Greenwood Elementary School, Waukegan, Illinois

Central Grade Elementary School, Pueblo, Colorado

Mt. Vernon Elementary School, Springfield, Oregon

Glen Elder Elementary School, Beloit, Kansas

7. Technical assistance on the project was provided by:

Marky Turrell Hinson, art work

Phillip Settle, art work

Rosemary Shepherd, editorial assistance

Susan Zorn, editorial assistance

Project Phases - The project consisted of basically five phases:

1. Search Phase - At the outset of the project the staff reviewed existing career education materials (commercial and noncommercial) and compiled these materials in a form that would:
    a. be useful to ETC staff members when they were developing activities for the curriculum guides; and
    b. be useful to school personnel throughout the country as they search for materials to assist them with the development of career education programs.
2. Formulation of Objectives Phase - Career development content was delineated for the ETC K-6 career education program through determination of:
    a. major career education concepts for a K-6 program;
    b. main career development themes which appear at each grade level; and
    c. behavioral objectives that correlate with the career development major concepts and main themes.
3. Curriculum Guides Phase - This phase consisted first of a compilation of the content taught at each grade level (K-6) in the subject matter areas of mathematics, science, language arts, and social studies. Then curriculum guides with accompanying student materials were developed which included activities that:
    a. emanated from career development concepts;
    b. acted as synthesizing agents to bring subject matter concepts and career development concepts together; and
    c. revolved around life-based activities.
4. Field Testing Phase - Five curriculum guides along with accompanying student materials were field tested at four sites:
    a. Waukegan, Illinois (Cooke Elementary School and Greenwood Elementary School)

   b. Pueblo, Colorado (Central Grade Elementary School)

   c. Springfield, Oregon (Mt. Vernon Elementary School)

   d. Beloit, Kansas (Glen Elder Elementary School)

5. Dissemination and Utilization Phase - The dissemination and utilization phase permeated the entire scope of the project. Conferences were held with major publishing companies, articles were written for professional publications, and presentations were made on the project throughout the entire time of the project. These activities not only disseminated information regarding the project but also enabled the project staff to receive as much input as possible to enhance utilization of materials.

## Summary of Major Project Activities

A summary of project activities has to be prefaced with the statement that development of K-6 career education instructional materials for teachers and students was the major objective of the ETC Project staff. However, as educators began to hear about the ETC Project, many requests for speaking engagements and consulting assignments were directed to the ETC Project staff. The following, however, is a list of the activities conducted during the course of the project which would have to be considered as major to the development of the ETC materials:

1. Letters were sent to approximately 85 commercial publishers requesting that they forward materials that would be appropriate for use in K-6 career education programs.

2. Letters were sent to state directors of vocational education, state research coordinating units, and directors of ancillary services in each of the 50 states requesting that they send copies of career education curriculum guides, bibliographies, and instructional materials that had been developed in their states.

3. The following staff members were hired for the project:

   Dr. Marla Peterson, Project Director
   Dr. Ann Jackson, Materials Development Coordinator
   Dr. Carl Tausig, Research Specialist
   Mrs. Janet Sutherland, Curriculum Specialist
   Mrs. Judy Barford, Project Associate

4. Staff members hired for the ETC Project, Dr. Charles Joley, Dr. Donald Gill, Dean Harry Merigis, Dr. Sherwood Dees, Dr. Ronald McCage, LeRoy Jordan, John Washburn, Howard Avery, and Lynn Troute met in June 1972 with Dr. Elizabeth Simpson, U.S.O.E. Program Officer for the ETC Project, Dr. James Dunn,

Director of the corresponding elementary education career development project being conducted by the American Institute of Research, and an intern in the U.S.O.E. Plans for working with the U.S.O.E. were discussed and suggestions were made for members to be included on the national advisory committee.

5. Commercial and noncommercial elementary school career education materials arrived from all over the United States.

6. Incoming materials that contained behavioral objectives were examined carefully and behavioral objectives contained in the materials were placed on index cards.

7. All necessary materials for the evaluation RFP were prepared and mailed to a list of approximately 85 potential evaluation subcontractors at the end of September 1972.

8. During the month of September 1972 the entire ETC staff worked on the bibliography of K-6 career education materials.

9. On September 13 and 14, 1972, three staff members visited The Center for Vocational and Technical Education at The Ohio State University to meet with staff members from the Comprehensive Career Education Model. ETC staff were able to view K-6 instructional units that had been gathered from throughout the United States and were permitted access to documents used by CCEM project directors.

10. On September 18, 1972, one staff member visited the University of Missouri, Columbia, Missouri, and met with Dr. Norman Gysbers. Dr. Gysbers was conducting a project which involved DVTE staff members from each of the 50 states.

11. On September 18, 1972, two staff members met with Frank Burtnett, Director of the National Career Information Center at the American Personnel and Guidance Headquarters in Washington, D. C.

12. On September 22, 1972, two staff members visited the Research and Development Unit in Springfield, Illinois, to examine K-6 materials that had been gathered by the unit.

13. On October 6, 1972, Dr. Elizabeth Simpson paid her second monitoring visit to the ETC Project.

14. Professional staff input into the bibliography was completed by October 6, 1972.

15. Six evaluation bids were received by the Purchasing Office for the ETC evaluation subcontract.

16. Three reviewers selected the three top evaluation bids.

17. During the month of October 1972 career education concepts for the ETC Project were identified.

18. During the month of October 1972 subject matter concepts for mathematics, science, language arts, and social studies were identified.

19. In November 1972 the ETC staff began working on a format for the curriculum guides.

20. In November 1972 seven dimensions of career education and 23 major concepts related to the dimensions were developed. Within each of the 23 major concepts, main ideas to be taught at each experience level were identified. This was the first draft of the concepts.

21. The entire staff attended the 1972 American Vocational Association Convention in Chicago, Illinois. Four presentations were made by ETC Project staff members.

22. The National Advisory Committee for the ETC Project met for the first time in Chicago, Illinois, December 2, 1972, at the Pick-Congress Hotel. Also attending that meeting were the following administrative officers from Eastern Illinois University:

    Dr. Gilbert Fite, President
    Dr. Harry Merigis, Dean, School of Education
    Dr. Charles L. Joley, Field Services Coordinator, Center for Educational Studies

23. The Ad Hoc Information Team for the ETC Project met for the first time on December 18 and 19, 1972, at Eastern Illinois University in the ETC Project headquarters. The purpose of the meeting was to review the themes, major concepts, and goals for career education that had been devised by the project staff.

24. After meeting with the Ad Hoc Information Team, ETC staff began to revise the themes, concepts, and goals in accordance with the suggestions recommended by the Ad Hoc Information Team.

25. Distribution of the bibliography began in December 1972. Initial distribution was to:

    a. State directors of vocational education

b. Five curriculum laboratories funded by U.S.O.E.

c. Selected projects funded by U.S.O.E. (All cluster projects and other appropriate projects)

d. Part D Exemplary Projects

e. Selected Part C Projects

f. ERIC Center - The Ohio State University

g. U.S.O.E. Staff: Dr. Sidney Marland, Dr. Robert Worthington, Dr. Elizabeth Simpson, Dr. William Pierce, Dr. Sidney High, and Miss Mary Marks

h. ETC Project National Advisory Committee members and Ad Hoc Information Team members

i. Eastern Illinois University administrators and teacher educators

26. Dr. Dan Dunham and Dr. Robert Barnes, evaluation subcontractors for the ETC Project, made their first evaluation visit in December 1972.

27. In January 1973 two staff members visited the Cobb County Career Education Project in Marietta, Georgia, and the Knox County Career Education Project in Knoxville, Tennessee.

28. During the period February 1, 1973, to May 1, 1973, major effort was directed at developing dimension frameworks for the ETC Project materials.

29. Letters were sent to career education leaders inviting them to serve as project consultants and speak at the summer Career Education Distinguished Lecture Series.

30. In March 1973 a format for the infusion strategies was devised by project staff.

31. A Request for Proposal to print project materials was prepared and distributed to approximately 90 publishers.

32. The project staff participated in a publisher's briefing session on March 29 and 30, 1973, at the Sheraton Oakbrook Hotel, Oakbrook, Illinois.

33. The project director was appointed to the Policy and Planning Committee for the Guidance and Counseling Division of the American Vocational Association.

34. In April 1973 a format for student materials to accompany the infusion strategies was devised by project staff.

35. Marky Turrell Hinson and Phillip Settle were employed by the project as art consultants. Mrs. Hinson did the art work for the dimension frameworks and Mr. Settle executed the art work for the student materials.

36. Twenty-eight definitions of terms were written to be included in the curriculum guides.

37. A Request for Authorization to Secure Copyright for the ETC materials was received from the U.S.O.E.

38. The second meeting of the ETC National Advisory Committee was held at Eastern Illinois University on June 29, 1973.

39. ETC Project staff taught a graduate level course on Career Education in the Elementary School during the 1973 summer term. Eight students enrolled for the course. A second graduate level course entitled "Trends and Issues in Career Education" was also offered during the 1973 summer term. This course was established as a lecture series whereby students would have the opportunity to hear from leaders in the field of career education. Twenty-one students enrolled in the course for credit; however, an average of approximately 100 people attended each of the eight sessions. Approximately 25 or 30 Eastern Illinois University faculty were in attendance for each presentation.

40. The Ad Hoc Information Team met for the second time on July 20, 1973, at the project headquarters. Suggestions were made by the team for changes in the infusion strategies.

41. The month of September saw the completion of all infusion strategies.

42. During September, two staff members met with the Waukegan teachers and administrators who were going to be participating in the field testing of ETC materials. Two schools were selected in Waukegan.

43. A master index was developed which included all activities within the four developmental dimensions of Coping Behaviors, Decision Making, Lifestyle, and Self-Development.

44. In October 1973 an inservice handbook for teachers using the ETC materials was written and duplicated.

45. In October 1973 three hundred copies each of the four curriculum guides were duplicated, collated, jogged, drilled, and bound in specially printed covers.

46. Evaluation subcontractors for the ETC Project visited the project for the second time in September 1973.

47. Project staff met with representatives from public schools at various times throughout the project to assist them in the preparation of proposals.

48. Field testing of ETC materials began in Waukegan on November 5, 1973.

49. The third-party evaluation team for the ETC Project selected the following out-of-state field testing sites: Springfield, Oregon; Beloit, Kansas; and Pueblo, Colorado.

50. Work began in December 1973 on the professional book which will accompany the ETC materials. Rationale for the development of the project materials will be presented in the book.

51. The Concepts and Components book was completed in December 1973 and copies forwarded to the U.S.O.E.

52. At the AVA Convention in Atlanta, Georgia, Dr. Peterson was elected to serve as chairman and Mrs. Sutherland was elected to serve as secretary of the elementary school interest section of the Guidance Division of AVA.

53. On January 7 one staff member met in Denver, Colorado, with the out-of-state field testing site coordinators. Representatives were present from Springfield, Oregon; Pueblo, Colorado; and Beloit, Kansas. Instructions were given as to the procedures for conducting the field testing at these sites.

54. The third-party evaluators visited the Waukegan field testing site on February 15, 1974.

55. On February 20, 1974, a combined National Advisory Committee and Ad Hoc Information Team meeting was held in Waukegan. Also attending the meeting were ETC Project staff, administrators from Eastern Illinois University, U.S.O.E. project monitor, representative from the Council of Chief State School Officers, state representative from the Waukegan area, and administrative staff from the Waukegan school system.

56. Two ETC staff members taught a course, "Career Education in the Elementary School," on an extension basis at Pana, Illinois, the first semester of the 1973-74 school year. Eighteen students enrolled for the course.

57. Field testing of ETC material was completed at all four sites on March 29, 1974.

58. The third-party evaluators conducted their final on-site evaluation on May 6 and 7, 1974.

59. Copies of the curriculum guides were delivered to the U.S.O.E. and a camera-ready copy of the manuscripts with suggested revisions was prepared and will be delivered to the appropriate publisher.

60. The final report was sent to the U.S.O.E. on June 15, 1974.

# CHAPTER II

## PROJECT PHASES

As plans for the project developed, it became evident that the project would be composed of five phases. These were:

(1) Search Phase

(2) Formulation of Objectives Phase

(3) Curriculum Guides Phase

(4) Field Testing Phase

(5) Dissemination and Utilization Phase

### Search Phase

Career development has entered a new era of emphasis. Increasingly, programs of career development are included in the general curriculum of schools from kindergarten through grade twelve. As the programs are being developed, practitioners and administrators look to the literature on career development for theory, research, and suggestions for practical applications.

To develop a bibliography for the ETC Project, career development materials were secured from a wide range of sources. Letters requesting materials were sent to the Research Coordinating Units of the Division of Vocational and Technical Education in each of the 50 states. Research directors were asked to supply materials or provide names of school systems or individuals to contact for materials. Directors of Guidance and Counseling services in each of the 50 states were also asked to supply career development materials that had been developed in their states.

Existing bibliographies for career education were examined for sources of information. ERIC system materials were searched and a special search for noncommercial materials which was conducted by Palo Alto Educational Systems, Inc., for the Comprehensive Career Education Model was made available to the ETC Project by The Center for Vocational and Technical Education, The Ohio State University. The National Center for Career Information which is located at the American Personnel and Guidance Headquarters also provided bibliographies of career education materials. The Curriculum-Involved Career Development Guidance, Counseling and Placement Project located at the University of Missouri at Columbia, Missouri, and the Illinois Division of Vocational and Technical Education Research Unit made available their files for the search.

Letters were sent to approximately 200 commercial publishers requesting that publishers provide the ETC staff with catalogs and instructional materials. The search for commercial materials was primarily limited to those with an original copyright date of 1969 to 1972.

Entries in the bibliography include a description to help the reader determine if the material contains ideas pertinent to the reader's purpose. Abstracts from Research in Education (RIE), Abstracts of Instructional Materials in Vocational and Technical Education (AIM), and Abstracts of Research Materials in Vocational and Technical Education (ARM) were copied as originally written in the reference. The initials of the source are used after the abstract of the entry. Annotations of other materials were made by a member of the ETC staff.

The Enrichment of Teacher and Counselor Competencies in Career Education Project (ETC Project) staff developed criteria for determining whether existing materials could be adapted to the K-6 career education instructional system developed by the ETC staff.

Basically, three types of career education materials were examined: (1) research reports and articles in professional journals, (2) instructional materials and curriculum guides produced by noncommercial agencies, and (3) commercially-prepared materials. Different assessment techniques were used for each of the three categories of materials.

The assessment applied to professional articles, books, and reports on career education was limited to those which would be of particular value to classroom teachers. The ETC staff was concerned with career development as it is presented in the classrooms of the elementary schools. Professional materials which seemed particularly pertinent to this area and which appeared since 1968 were included in the bibliography.

The noncommercial materials for curricular use were examined to determine how applicable they were for presenting certain concepts related to self and career awareness and for their relationship to the content areas of mathematics, science, language arts, and social studies. Materials received as of October 1, 1972, were assessed and listed in the bibliography.

The "Assessment Form" which was used by Palo Alto Educational Systems, Inc.[1] to identify, compile, catalog, analyze, and assess past and present career education efforts to support The Ohio State University Comprehensive Career Education Model served as a springboard from which the ETC staff developed an assessment form which would serve the needs of the ETC Project for analyzing commercially-prepared materials.

The media classification system developed by Thompson[2] was also used as a source for analyzing commercially-prepared materials. Thompson classified media into four categories: (1) Prestructured and Fixed, (2) Input Controlled by Individual, (3) Simulation of Situation, and (4) Real Situation.

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Objective measures for classroom use in the elementary schools are varied. The search for those related to Career Development was limited to reference works available to the staff. The section on "Measurement" was limited to those materials directly related to attitude, aptitude, interest, and vocational development assessment.

Included in the bibliography was a list of bibliographies from other projects and curriculum guides which the ETC staff felt were of particular value to those developing career education programs.

Materials for career education are constantly being developed and revised. The reviews in the bibliography are of materials available to the staff as of October 1, 1972. Many materials which were examined were in a rough draft stage. The content seemed to merit mention in the bibliography even though the final revision was not available or the project was not completed.

The resulting document from the search phase of the project was The Enrichment of Teacher and Counselor Competencies in Career Education K-6--An Annotated Bibliography. Copies of the bibliography were distributed nationwide. Copies were sent to:

State Directors of Vocational Education

Directors of projects funded by the Curriculum Center for Occupational and Adult Education

Directors of Part D Projects

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FIGURE 1

COVER OF ANNOTATED BIBLIOGRAPHY

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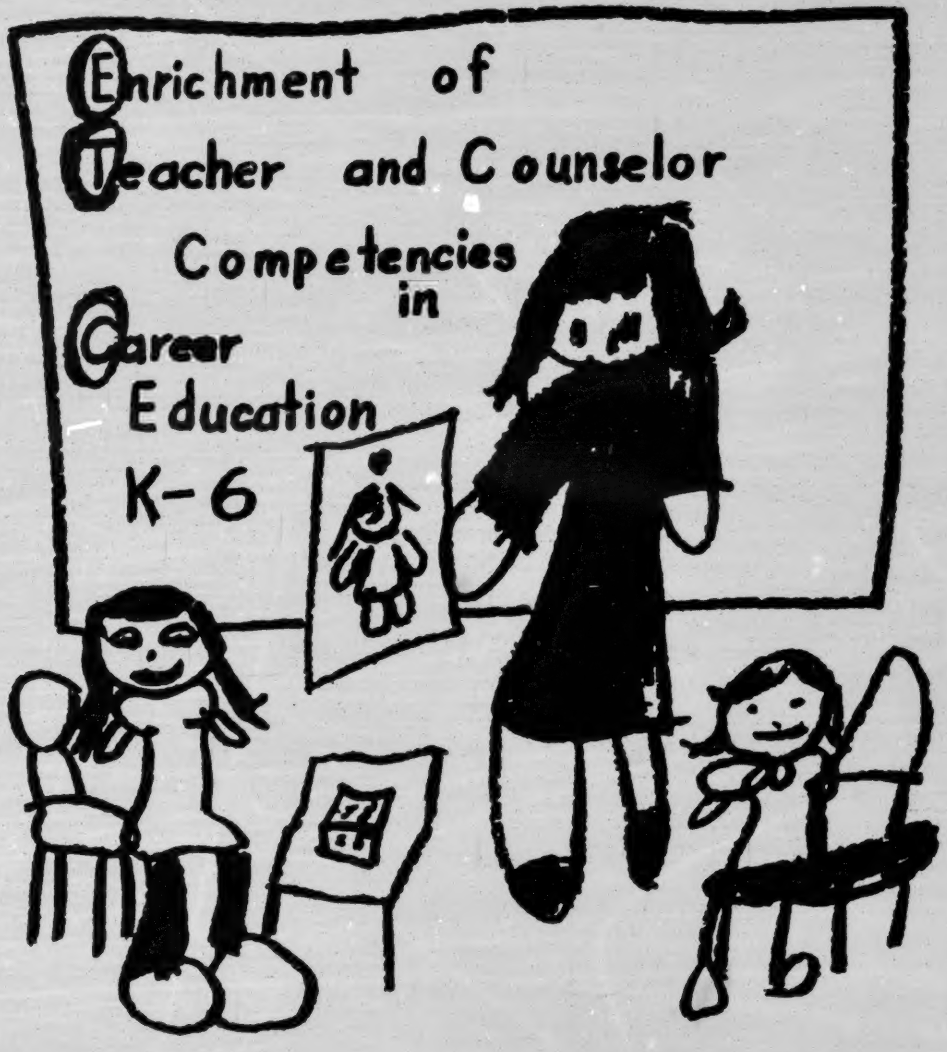
Enrichment of
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# AN ANNOTATED BIBLIOGRAPHY

**Developed by The Center for Educational Studies, School of Education, Eastern Illinois University, Charleston, Illinois, in cooperation with The Curriculum Center for Occupational and Adult Education, Bureau of Adult, Vocational, and Technical Education, United States Office of Education.**

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## Formulation of Objectives Phase

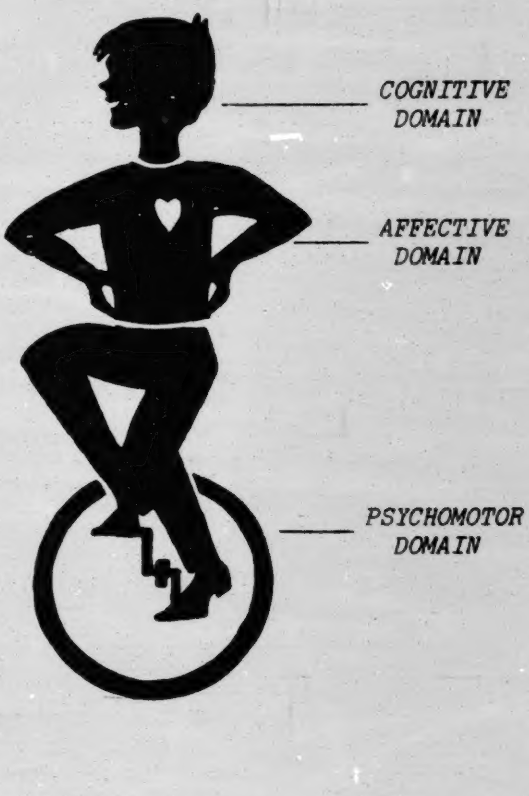
The ETC Project staff identified certain career development concepts that should be a part of a career education program. These concepts are related to: Attitudes and Appreciations, Career Information, Coping Behaviors, Decision Making, Educational Awareness, Lifestyle, and Self-Development. The procedures for arriving at the objectives are considered in detail in Chapter III.

Within each career development dimension of Attitudes and Appreciations, Career Information, Coping Behaviors, Decision Making, Educational Awareness, Lifestyle, and Self-Development concepts of career development were identified. In the developmental dimensions of Coping Behaviors, Decision Making, Lifestyle, and Self-Development one to three major concepts were identified. Each major concept has a subconcept for each experience level K-6 sequenced by increasing detail and difficulty according to experience level.

Within the interacting dimensions of Attitudes and Appreciations, Career Information, and Educational Awareness one major concept was identified for each dimension. Subconcepts for each major concept are more general and are the same at each experience level.

Teacher goals were written for each subconcept. Teacher goals enable the teacher to preview the teachability of a concept. The teacher goals alert the teacher to many ways to reinforce career concepts throughout the school.

Pupil performance objectives for the career development concepts were written for the cognitive, affective, and psychomotor domains. In the frameworks, the parts of this figure are used to identify the three domains.



An ETC career development dimension is organized by means of a "framework," which explains the rationale for the dimension and points out the relationship among its three kinds of content--concepts, teacher goals, and pupil performance objectives. The main purpose of the frameworks is to provide generalizable career development ideas which can be adapted to suit the academic subject matter contents, pupil differences, teacher perspectives, and learning environments that may exist in a given situation.

The dimension frameworks comprised of concepts, subconcepts, teacher goals, and pupil performance objectives written in the cognitive, affective, and psychomotor domains were brought together in each of the seven dimensions and published in a document titled A CURRICULUM DESIGN: CONCEPTS AND COMPONENTS for the Enrichment of Teacher and Counselor Competencies in Career Education K-6. Persons receiving this document were:

> Curriculum laboratories in the National Network for Coordination of Curriculum for Vocational and Technical Education
>
> Other R&D Projects funded by U.S.O.E.
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Pages 23-52 are taken directly from A CURRICULUM DESIGN: CONCEPTS AND COMPONENTS. Pages 25-42 contain one major concept within the developmental dimension of Decision Making, its related subconcepts for experience levels K-6, and teacher goals and pupil performance objectives for the readiness level.

Pages 43-52 contain the dimension framework for the interacting dimension of Educational Awareness.

FIGURE 2

COVER OF CONCEPTS & COMPONENTS PUBLICATION

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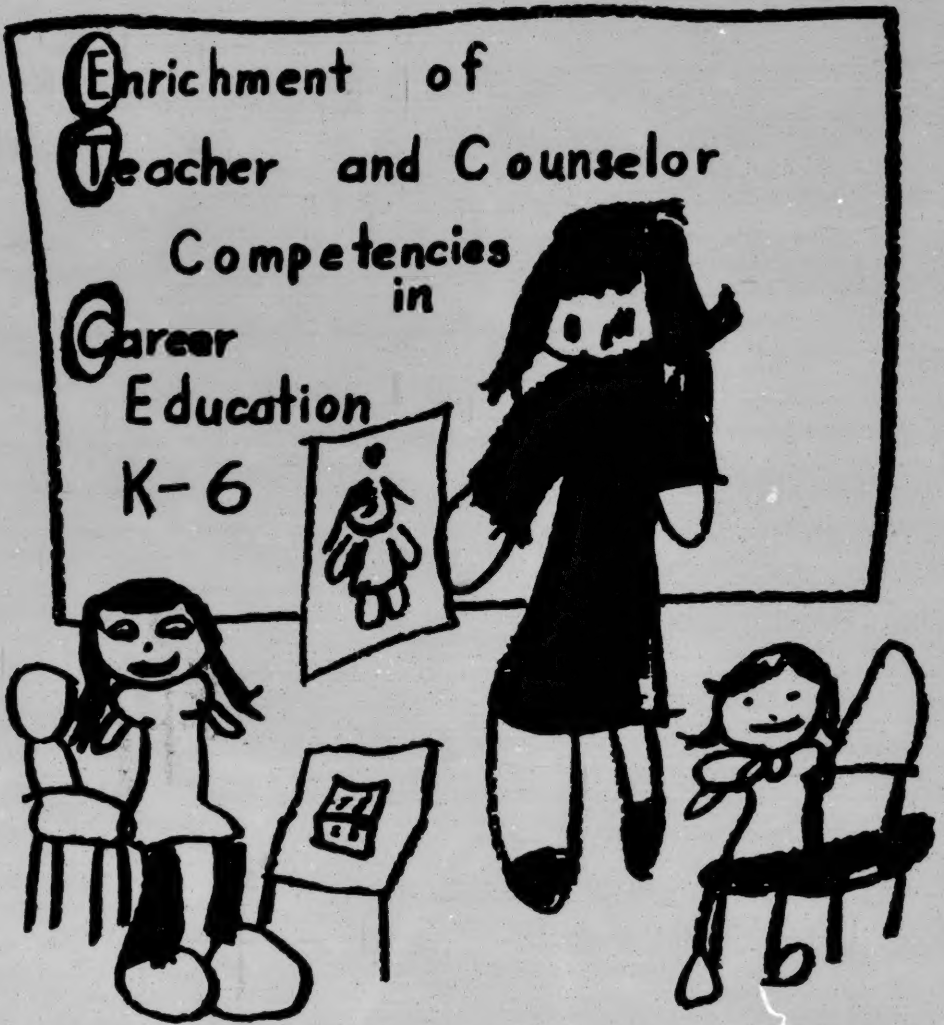
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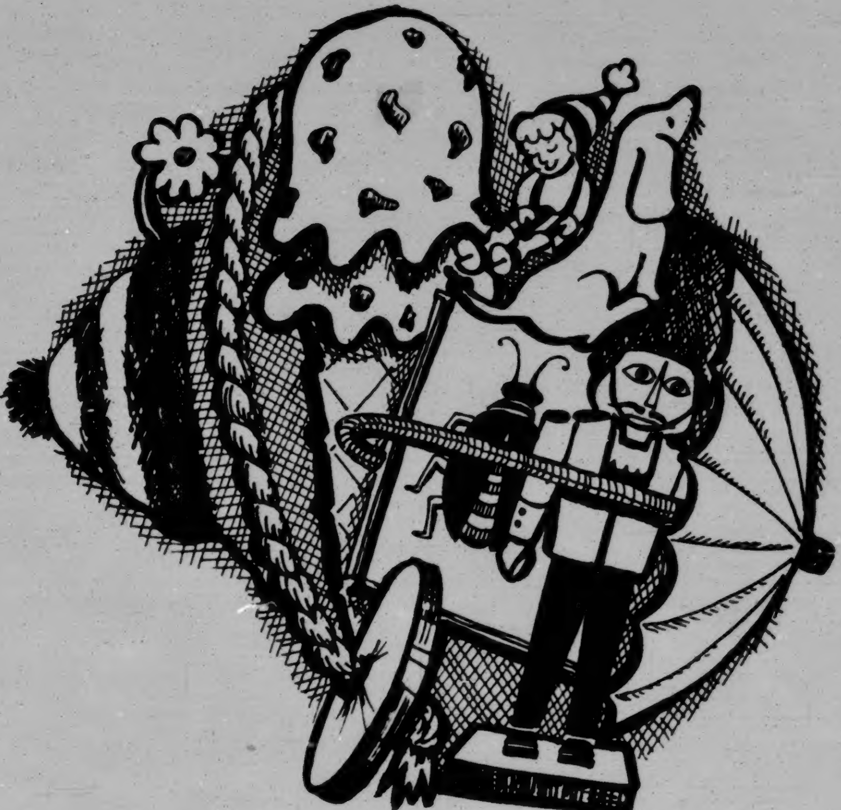
# Decision Making

Major Concept

LIFE INVOLVES A SERIES OF CHOICES
LEADING TO CAREER COMMITMENTS.



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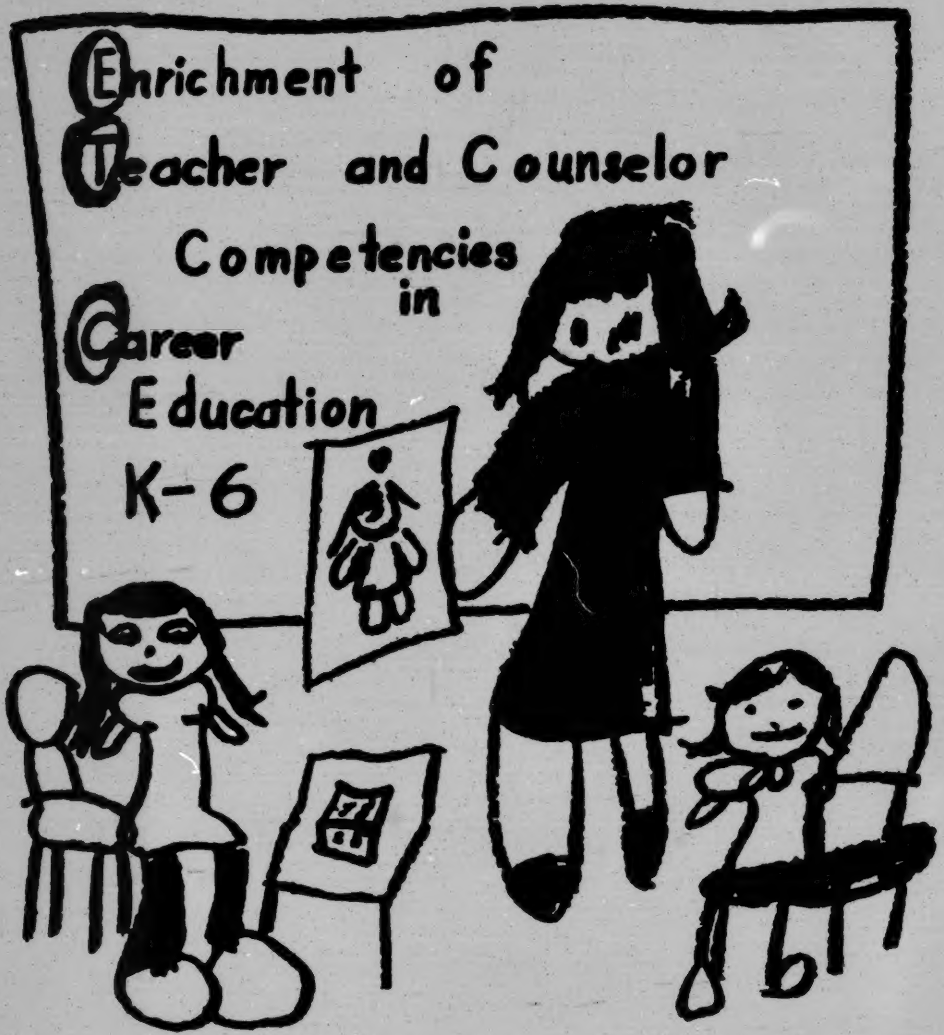
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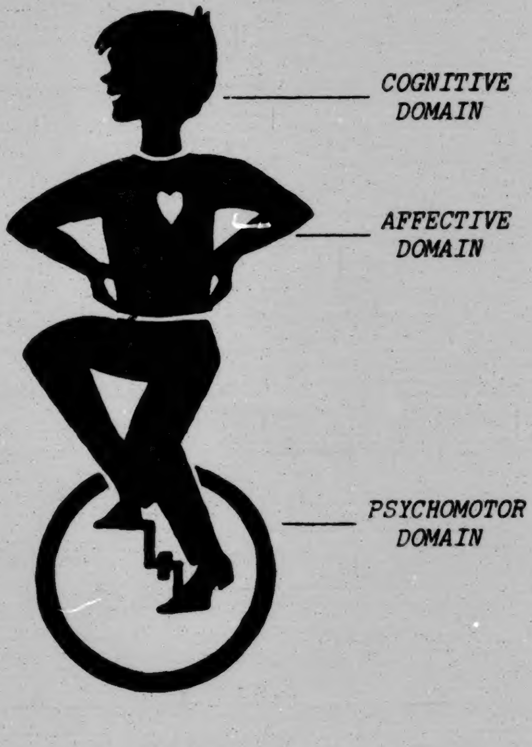

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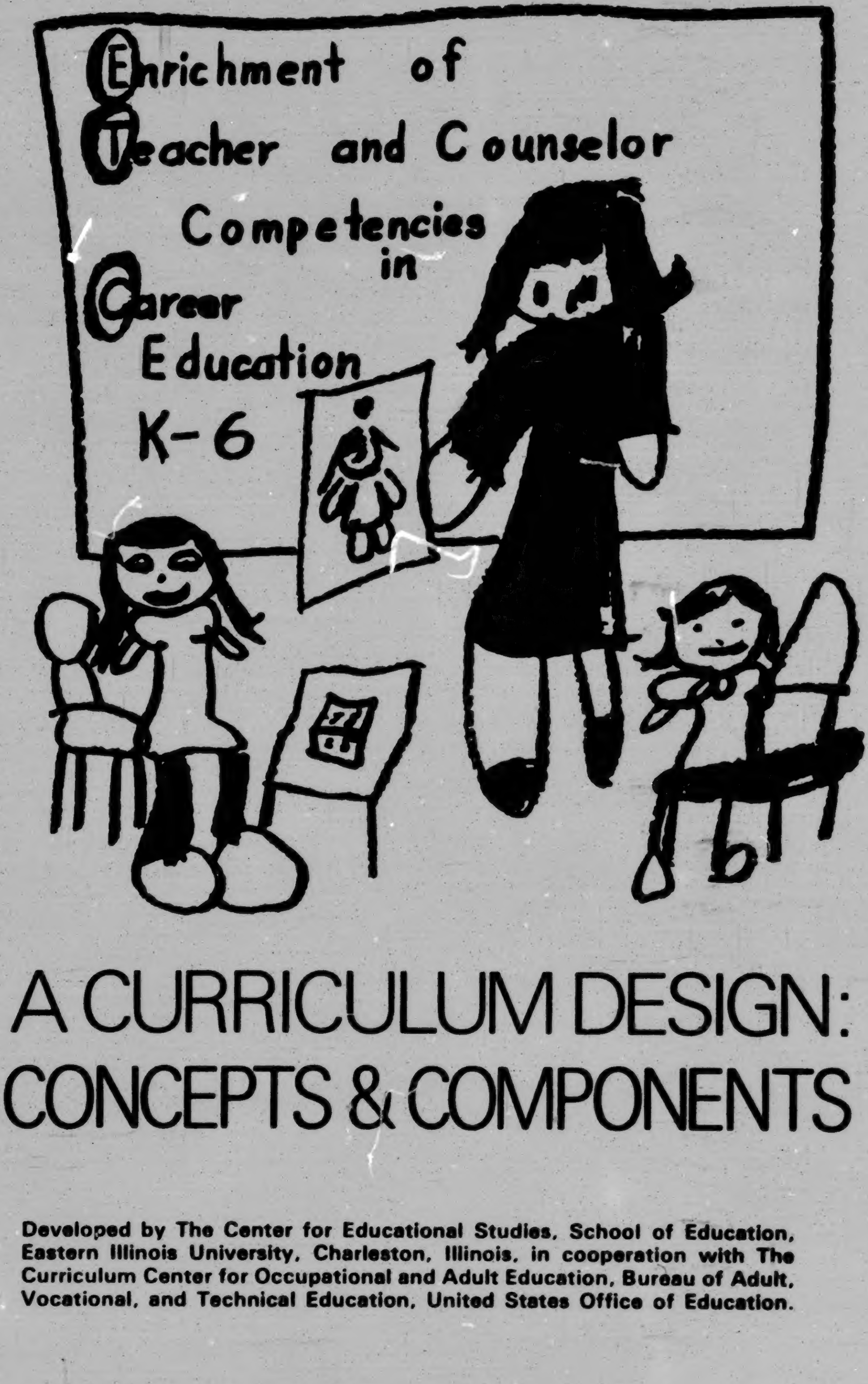

Enrichment of
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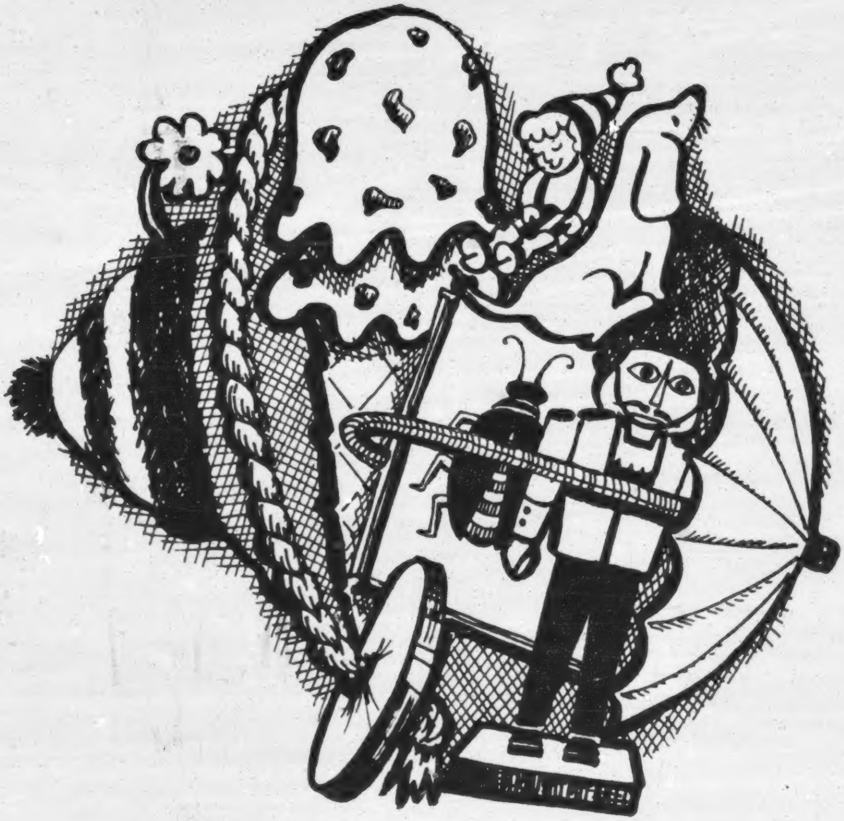

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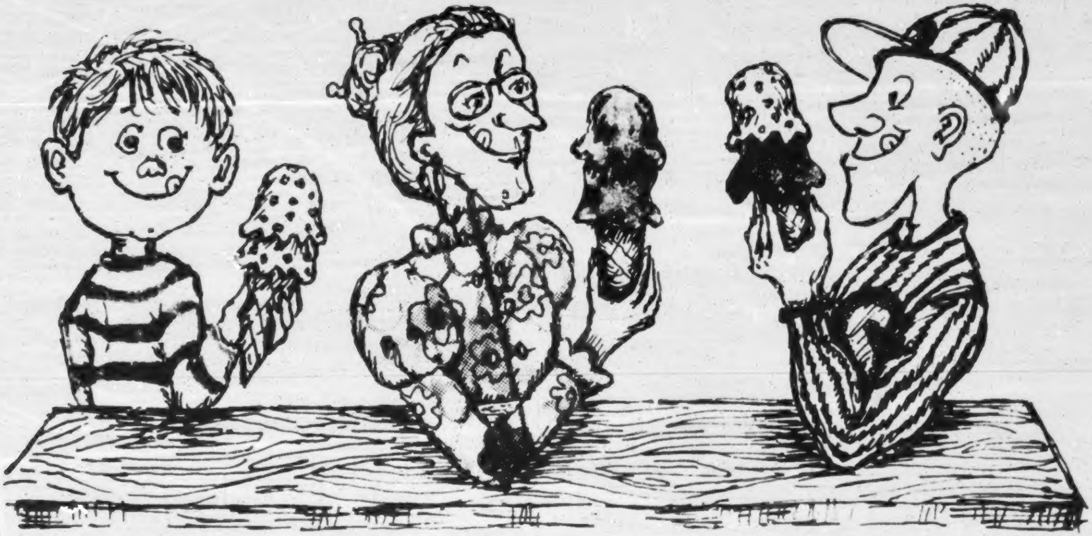

*Choice means "making up one's mind" and there are certain situations where one can make choices.*

# Readiness Level

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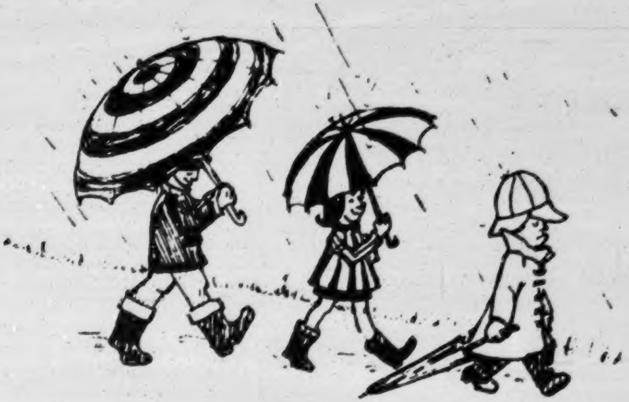
Choice means "making up one's mind" and there are certain situations where one can make choices.

*Things change and these changes influence the choices and decisions one makes.*



# First Experience Level

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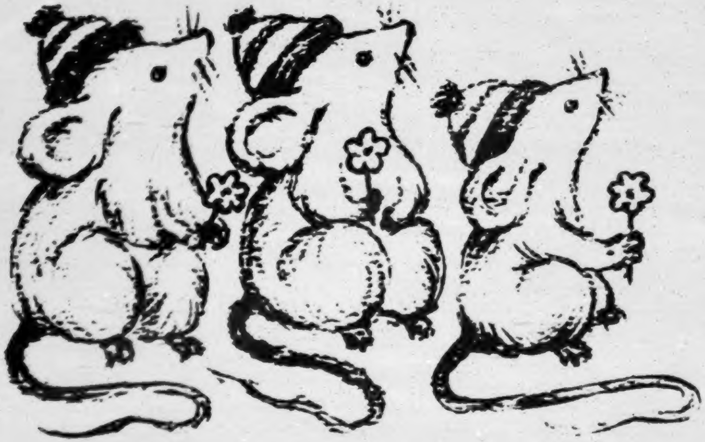
Choice means "making up one's mind"
and there are certain situations
where one can make choices.

Things change and these changes
influence the choices and decisions
one makes.

*An individual's decisions
affect himself and others.*



# Second Experience Level

BEST COPY AVAILABLE

Choice means "making up one's mind" and there are certain situations where one can make choices.

Things change and these changes influence the choices and decisions one makes.

An individual's decisions affect himself and others.

*People change and these changes influence the choices and decisions one makes.*

# Third Experience Level

Choice means "making up one's mind" and there are certain situations where one can make choices.

Things change and these changes influence the choices and decisions one makes.

An individual's decisions affect himself and others.

People change and these changes influence the choices and decisions one makes.

BEST COPY AVAILABLE

*Decision making involves risks.*

# Fourth Experience Level

BEST COPY AVAILABLE

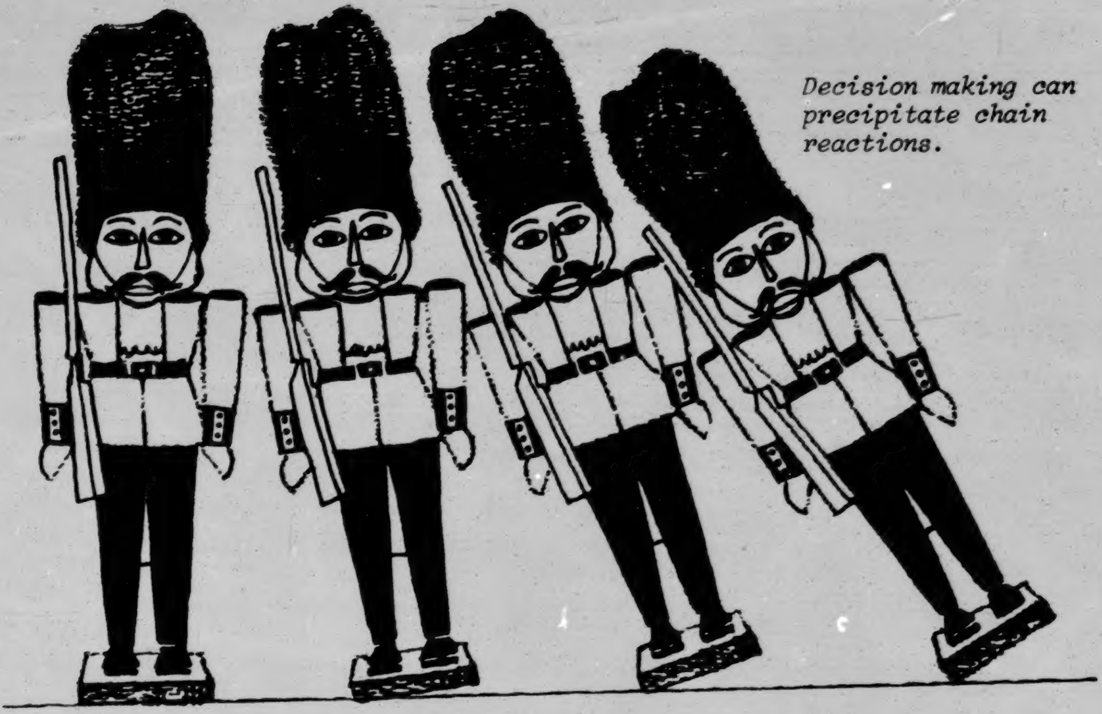
Choice means "making up one's mind" and there are certain situations where one can make choices.

Things change and these changes influence the choices and decisions one makes.

An individual's decisions affect himself and others.

People change and these changes influence the choices and decisions one makes.

Decision making involves risks.



*Decision making can precipitate chain reactions.*

# Fifth Experience Level

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Choice means "making up one's mind" and there are certain situations where one can make choices.

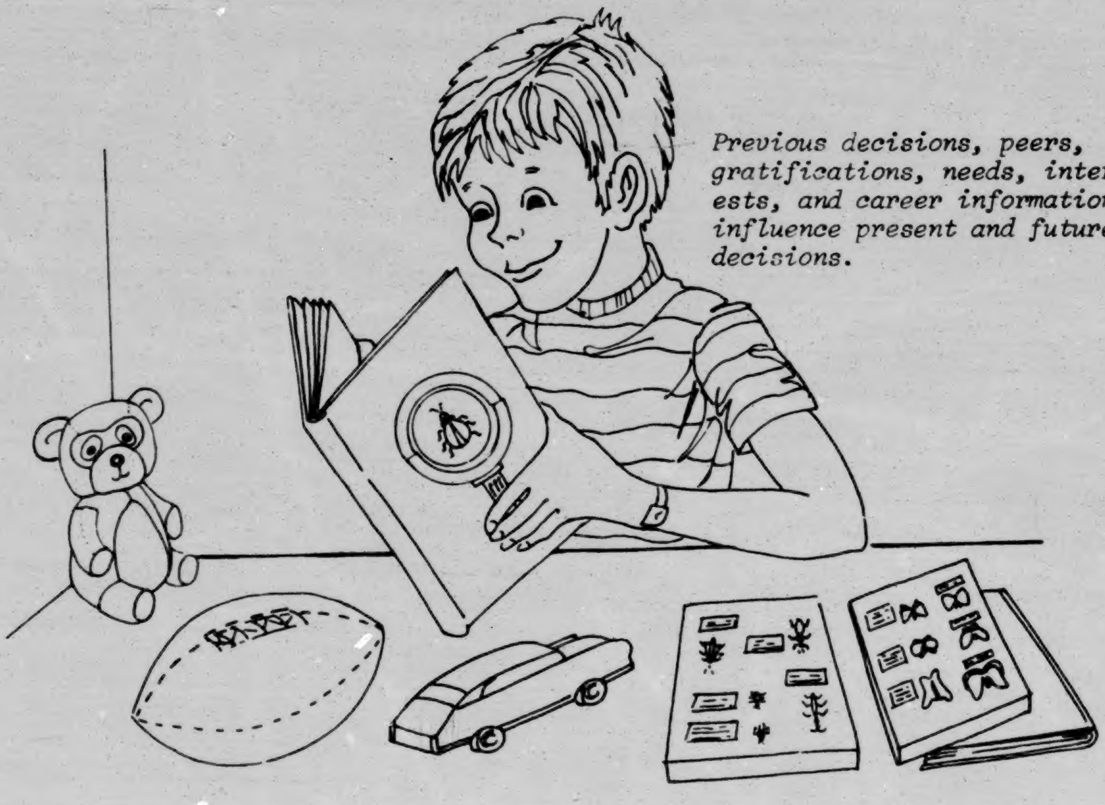
Things change and these changes influence the choices and decisions one makes.

An individual's decisions affect himself and others.

People change and these changes influence the choices and decisions one makes.

Decision making involves risks.

Decision making can precipitate chain reactions.



*Previous decisions, peers, gratifications, needs, interests, and career information influence present and future decisions.*

# Sixth Experience Level

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# Readiness Level

MAJOR CONCEPT

Life involves a series of choices leading to career commitments

SUBCONCEPT

*Choice means "making up one's mind" and there are certain situations where one can make choices.*

What kinds of experiences shall we provide to help children begin to develop an ability to deal with choices? One possibility is simply to

> CALL ATTENTION TO A WIDE RANGE OF SITUATIONS IN WHICH A CHOICE IS POSSIBLE AND PERMISSABLE.

We may also seek to

> STRUCTURE EXPERIENCES FOR INDIVIDUALS AND GROUPS IN ORDER TO SET UP SPECIFIC OPPORTUNITIES FOR MAKING UP THEIR MINDS.

An atmosphere of acceptance can help matters, so we would certainly make the effort to

> ENCOURAGE FURTHER DECISION MAKING BY BEING RECEPTIVE TO CHILDREN'S RESPONSES TO DECISION-MAKING SITUATIONS.

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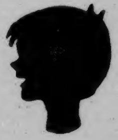
# Readiness Level

MAJOR CONCEPT

Life involves a series of choices leading to career commitments.

SUBCONCEPT

*Choice means "making up one's mind" and there are certain situations where one can make choices.*

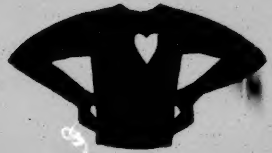
In the , the student will be able to

. . . differentiate between an example of a casual choice and an example of a decisive commitment.

. . . state at least two different situations in which he is not permitted to make a choice.

. . . state at least two different situations in which he is permitted to make a choice.

. . . describe a consequence which followed when he failed to follow through on a decision.

In the , the student will be able to

. . . complete a particular classroom activity he has chosen.

. . . cooperate with one or more classmates in choosing an activity during nonstructured time.

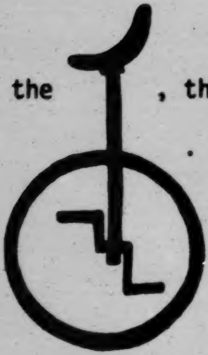
. . . cooperate with one or more classmates in choosing an activity during a teacher-structured situation.

. . . investigate at least three types of materials that have an appeal to him, and rank order them according to his own preferences.

. . . report on how he chose between two activities which were scheduled at the same time.

. . . describe his preferences concerning helping with chores at home, school, or elsewhere.

. . . describe a choice situation in which he could not make up his mind, with emphasis on how the situation was resolved.

In the , the student will be able to

. . . pantomine a person trying to make up his mind about buying something in two different kinds of stores.

43/44

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# Educational Awareness

**Major Concept**

EDUCATIONAL SKILLS AND EXPERIENCES ARE RELATED TO THE ACHIEVEMENT OF CAREER GOALS.

EDUCATIONAL AWARENESS
Decision Making
Coping Behaviors
Self Development
Lifestyle

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# Introduction

Implementing this concept involves providing the conditions of educational relevance for each pupil. It is hoped that in-school learning experiences make a continuing contribution to personal growth and practical skills which pupils use outside of school. Pupils have difficulty realizing the ultimate usefulness of education because of their limited experience in the world. Though we do not wish to detract from learning for its own sake, teachers need to intentionally relate in-school experiences to out-of-school possibilities and pleasures for the children, especially as these in-school experiences are the beginnings of professional qualifications. This orientation can help to identify learning as an integral and continuing part of life, which depends upon willingness to learn as well as the ability.

Due to the nature of the content of the Educational Awareness dimension, all pupil performance objectives are stated in terms relating to the affective domain.

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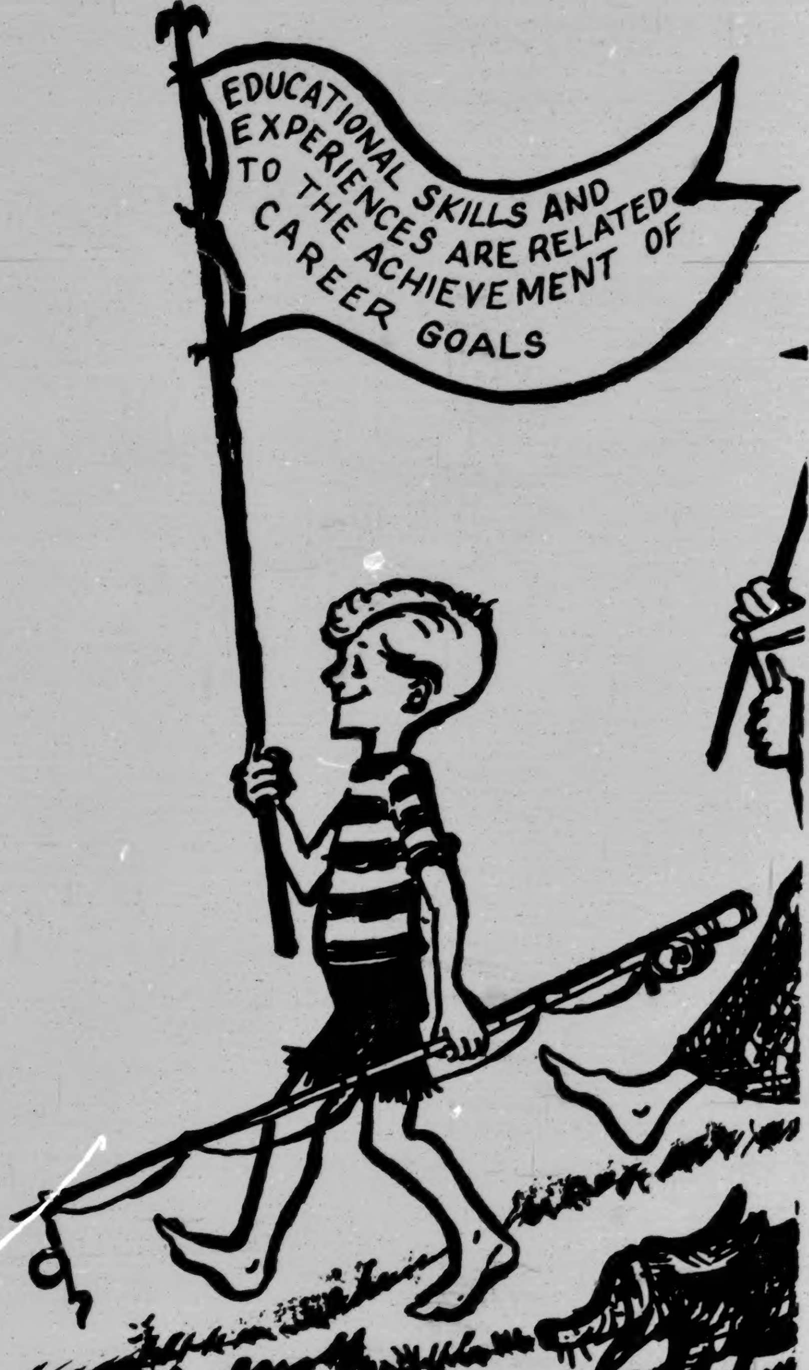
EDUCATIONAL SKILLS AND EXPERIENCES ARE RELATED TO THE ACHIEVEMENT OF CAREER GOALS

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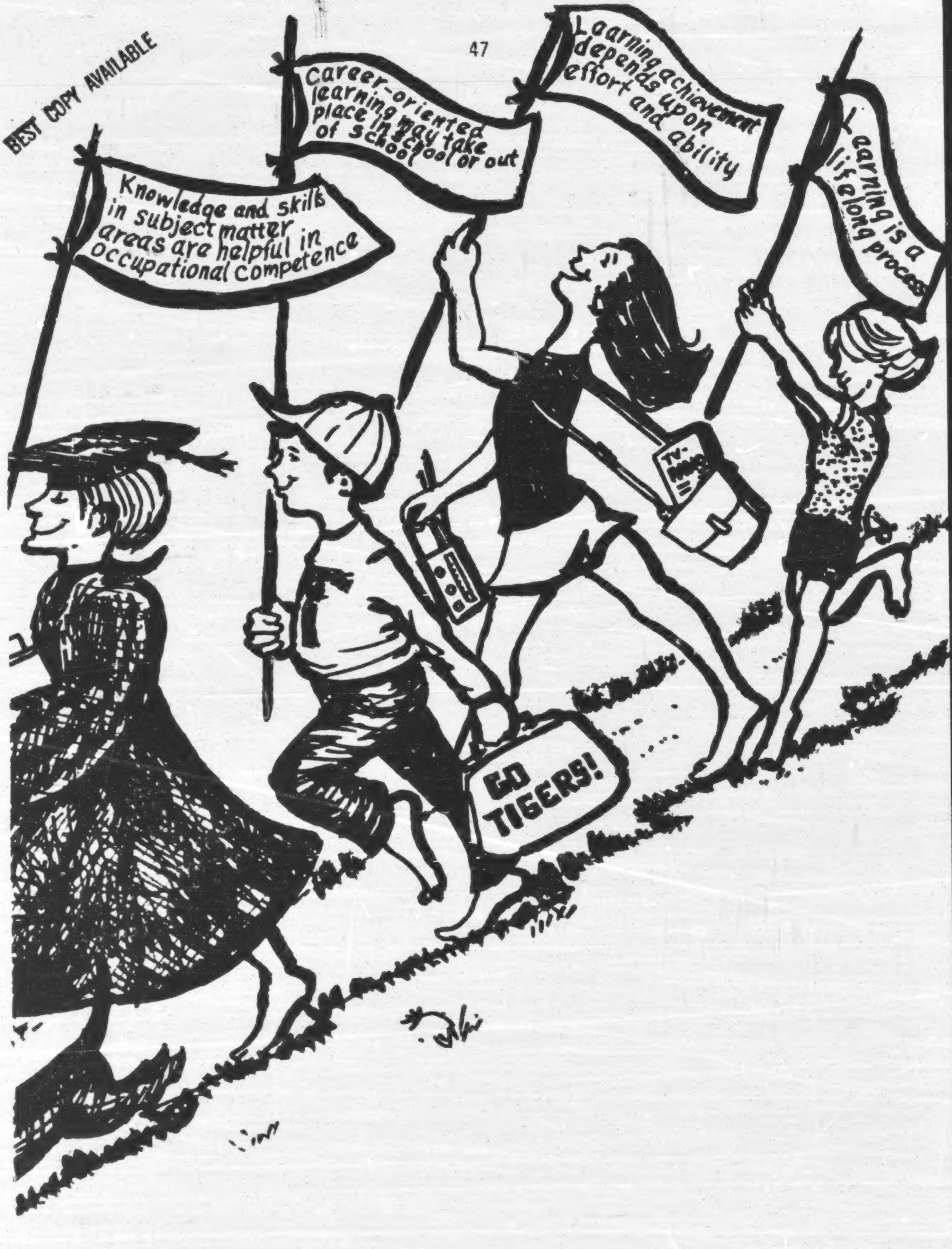
Knowledge and skills in subject matter areas are helpful in occupational competence
Career-oriented learning may take place in school or out of school
Learning achievement depends upon effort and ability
Learning is a lifelong process
TV-MAG
GO TIGERS!

## Major Concept

Educational skills and experiences are related to the achievement of career goals.

## Subconcept

*Knowledge and skills in subject matter areas are helpful in occupational competence.*

## Teacher Goals

INTEREST PUPILS IN KNOWLEDGE AND SKILLS USED IN VARIOUS OCCUPATIONS.

STRUCTURE EXPERIENCES IN WHICH PUPILS USE SUBJECT AREA SKILLS AND KNOWLEDGE TO SIMULATE OCCUPATIONAL ACTIVITIES.

---

## Pupil Performance Objectives

. . . relate a particular academic skill to the requirements of at least three different occupations.

. . . identify academic knowledge and skills used by a particular worker in his job.

. . . identify physical or artistic skills used by a particular worker in his job.

. . . relate one's own learning achievements to at least two different job descriptions.

## Major Concept

Educational skills and experiences are related to the achievement of career goals.

## Subconcept

*Career-oriented learning may take place in school or out of school.*

## Teacher Goals

SHARPEN PUPIL PERCEPTION OF THE MANY CONTEXTS IN WHICH LEARNING MAY TAKE PLACE.

RECOGNIZE AND SUPPORT PUPILS WHO UNDERTAKE SIGNIFICANT OUT-OF-SCHOOL ACTIVITIES.

---

## Pupil Performance Objectives

. . . identify at least one particular fact or skill which one has learned out of school.

. . . identify at least two specific skills or facts that one has learned via instruction in school.

. . . report on how preparation for a particular occupation was achieved during a given period in history.

. . . list at least two different ways that a person may learn a skill or fact other than by direct instruction.

. . . classify a specified number of occupations according to their formal educational requirements.

## Major Concept

Educational skills and experiences are related to the achievement of career goals.

## Subconcept

*Learning is a lifelong process.*

## Teacher Goals

BUILD NEW LEARNINGS UPON PREVIOUS LEARNINGS FOR INDIVIDUAL PUPILS.

ENLARGE PUPIL PERSPECTIVES SO THAT THEY MAY UNDERSTAND THE CONTINUING LEARNINGS OF PRE-SCHOOL CHILDREN AS WELL AS ADULTS.

---

## Pupil Performance Objectives

. . . cite the work experience of an adult acquaintance as an example of the continuing nature of learning.

. . . name at least one adult acquaintance who is attending a school of some kind, and tell what his purposes in attending are.

. . . report on the achievements of a particular inventor or explorer.

. . . explain how changes in technology, science, or the environment may require most people to add new knowledge or skills to their lives.

. . . compare the contents of a particular text for one's own grade level with those of a related text for a different grade level.

. . . name at least three learnings one had accomplished before entering school.

## Major Concept

Educational skills and experiences are related to the achievement of career goals.

## Subconcept

*Learning achievement depends upon effort and ability.*

## Teacher Goals

REWARD EFFORT AS WELL AS ACHIEVEMENT.

APPRECIATE INDIVIDUAL DIFFERENCES IN PUPIL ABILITIES.

CREATE DIFFERENT AND STIMULATING WAYS TO ACQUIRE SPECIFIC SKILLS SO THAT CONTINUED EFFORT WILL BE ENCOURAGED.

OFFER PUPIL MANY OPPORTUNITIES TO PERFORM SUCCESSFULLY AFTER LEARNING HAS BEEN ACHIEVED.

---

## Pupil Performance Objectives

. . . describe how one's attitude toward a particular task may affect one's effort.

. . . differentiate between being willing to learn and being able to learn.

. . . tell of at least one instance in which one's deliberate efforts to improve resulted in increased ability or knowledge.

. . . cite an example of a fact or skill which is prerequisite to another.

. . . offer encouragement to a classmate who is having difficulty with a particular task.

## RELATED MATERIALS

Beginning Responsibility: Doing Things for Ourselves in School (Film, Color, 11-min.) Coronet Instructional Films, Coronet Building, 65 E. South Water Street, Chicago, Illinois 60601, 1963. Primary.

Beginning Responsibility: Rules at School (Film, Color, 11-min.) Coronet Instructional Films, Coronet Building, 65 E. South Water Street, Chicago, Illinois 60601, 1964. Primary.

I Can Do It (Worktexts and Activity Sheets) George A. Pflaum, 38 West 5th Street, Dayton, Ohio 45402, 1971. Intermediate.

School and School Helpers (Pictures and Resource Sheets) David C. Cook Texas Educational Aids, 4725 Main Street, Houston, Texas 77002, 1970. Primary.

School Problems: Getting Along With Others (Film, Color, 12-min.) Bailey Film Associates, 11559 Santa Monica Boulevard, Los Angeles, California 90025, 1972. Primary - Intermediate.

## Curriculum Guides Phase

Concentrated effort of all staff members on the curriculum guides began in January 1973 and continued until November 1973 when field testing began. Five curriculum guides were developed by the ETC Project staff. In preparation for field testing, one guide was developed for each of the developmental dimensions of Coping Behaviors, Decision Making, Lifestyle, and Self-Development, and one guide was developed for the interacting dimensions of Attitudes and Appreciations, Career Information, and Educational Awareness.

Each developmental dimension curriculum guide consists of the following:

1. Introductory material relating to the use of the guide
2. Dimension frameworks (concepts, teacher goals, and pupil performance objectives) developed from the major concepts identified for that dimension
3. An infusion strategy for each experience level K-6 within each major concept
4. Master index incorporating all teaching/learning activities from all dimensions

Each developmental dimension is composed of a dimension framework for each major concept within that dimension and one infusion strategy detailing the appropriate subconcept for each experience level K-6 within each major concept. The interacting dimensions guide consists of one dimension framework for each of the three interacting dimensions.

During the first three months of 1973 the dimension frameworks for all seven dimensions were produced. These efforts climaxed on March 28-29, 1973, when the materials were displayed and explained at a publisher's alert conference in Oakbrook, Illinois.

The months of April through August 1973 saw the writing, editing, and typing of infusion strategies. The infusion strategy directs the use of teaching/learning activities which contain selected career development concepts, academic subject matters, and occupational information.

Each infusion strategy is based upon a single subconcept from one of the developmental dimensions. That subconcept is one of seven related to a given major concept. The seven subconcepts are assigned sequentially to experience levels (K-6), and the seven corresponding infusion strategies actively develop those subconcepts from level to level. Thus, an infusion strategy can be identified as an example of how to implement the subconcept assigned to a particular experience level within a given developmental dimension. Since there are eight major concepts in the developmental dimensions and seven experience levels under each major concept, a total of 56 infusion strategies were written--14 for Coping Behaviors, 14 for Decision Making, 7 for Lifestyle, and 21 for Self-Development. Each activity in an infusion strategy contains at least one pupil performance objective drawn from its developmental concept.

Subconcepts from the interacting dimensions supplement the basic developmental subconcept of each infusion strategy. Usually two to four pupil performance objectives are drawn from subconcepts of any or all of the interacting dimensions for each teaching/learning activity. Consequently, an activity in a Decision Making infusion strategy would contain pupil performance objectives related to Attitudes and Appreciations, Career Information, and/or Educational Awareness as well as to its own particular Decision Making subconcept.

Each infusion strategy contains the following:

1. Career development concepts
2. Teacher goals
3. Vocabulary
4. Performance objectives
5. Listings of subject matter concepts used
6. Preplanning suggestions
7. Student activities
8. Student pages (REACT pages)
9. References to related materials
10. Job descriptions of the occupations

Within each infusion strategy there are 3-5 teaching/learning activities. Student materials are offered for each activity in the form of Reinforcement Activity (REACT) pages. The REACT page is an activity supplement to be used at the discretion of the teacher. Directions for using the REACT pages are at the end of each activity.

An activity entitled "Mini-Museum: Culture Comparison Exhibit" from the infusion strategy "Curiosity Created the Curator" and accompanying REACT page follows on pages 55-58.

## MINI-MUSEUM: CULTURE COMPARISON EXHIBIT

Learning is a lifelong process.

**Educational Awareness**

Work involves the acceptance of responsibility for a task.

**Attitudes and Appreciations**

The decision-making process can be used to set priorities in developing personal goals.

**Decision Making**

A great advantage of museum exhibits is that they make it possible for us to compare our culture or way of life with those of the past and those different from our own. We can find out how goals have changed with time and how ours are different from those of others. Have any class members seen a culture of the past or a foreign culture exhibited in a museum? What could you tell about the goals of the culture from its artifacts?

*. . . explain how historical changes have required that people add new knowledge and skills to their lives.* PPO

Interest the children in establishing as a goal to find out how culture in your region has changed in the past thousand years. This investigation will be for the purpose of setting up a mini-museum exhibit. Guide the children to concentrate on three general time periods:

1,000 years ago
100 years ago
Today

*. . . take part in organizing and executing a museum culture comparison exhibit.* PPO

*. . . name four basic needs which were important goals for both an historical culture and our present way of life.* PPO

Consider basic needs as goals of a culture. Ask for volunteers to research each time period under goal headings such as Food, Clothing, Housing, Tools and Utensils, Language, or Government. Encourage individuals or pairs in each time group to assume the role of curators of the above headings. Ask researchers to identify the most important way of reaching a goal in each time period.

The decision-making process can be used to set priorities in developing personal goals.

**Decision Making**

. . . *list two priorities of curators in planning museum exhibits.* PPO

Encourage children assuming the role of curators to set priorities for gathering evidence of the culture of each time period. Talk about priorities as the most important goals. What kind of evidence would be best--pictures from books, reports of experts, real artifacts? Remind the mini-curators of the educational goal of the museum. One priority while gathering evidence of a culture should be how well the information could be used in an exhibit and understood by others. What other priorities would curators have for their exhibits besides educational interest? Perhaps scientific accuracy, completeness, and artistic appeal would be examples.

What do curators do if they cannot obtain an important artifact for their exhibit? Often the museum workers will be able to make a replica or model.

Knowledge and skills in subject matter areas are helpful in occupational competence.

**Educational Awareness**

. . . *identify physical and artistic skills used by museum workers.* PPO

Perhaps the children would like to prepare clay, cloth, or paper mache models or artifacts. Would this be a priority?

During the assembling of the exhibits, remind children of the original goal: to notice how the ways of life in their region have changed.

**The decision-making process can be used to set priorities in developing personal goals.**

**Decision Making**

. . . *compare one's personal priorities to those of an historical culture.* PPO

Ask each group to think of advantages to ways of reaching goals in the time period which they study. Ask, "If you had a choice of living now, 100 years ago, or 1/000 years ago, which would you choose? Why?"

**Completion of a worthwhile task has value for the worker and for society.**

**Attitudes and Appreciations**

. . . *describe the attitudes museum workers might have toward their work.* PPO

The curators of museums want to share their work. Decide upon guests to invite to your mini-museum. How shall you attract them? Perhaps you could feature a souvenir shop, make up a pamphlet, offer skits, etc.

The REACT page suggests a time chart to compare past ways of life with today's. The chart could be a way to plan the mini-museum exhibit.

DM/Level 4/7

"A Time Chart"

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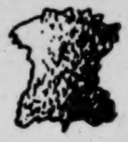
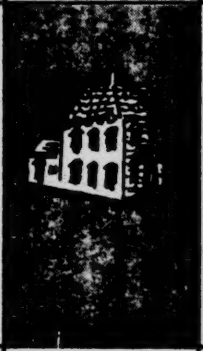
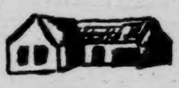
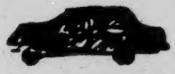
# A TIME CHART

Long ago people had the same needs we have for food, clothing, housing, tools, and transportation. They reached these goals in ways very different from our own. Make a time chart to compare life 100 years ago and 1,000 years ago with today. Fill in the chart with words or pictures. The chart could be a plan for a museum culture comparison exhibit.

A sample beginning:

| GOALS: | FOOD | CLOTHING | HOUSING | TOOLS | TRAVEL |
|---|---|---|---|---|---|
| 1000 yrs. ago | deer<br>fish<br>birds | skins<br> | | stone ax<br>bow | legs |
| 100 yrs. ago | | |  | | horse |
| TODAY | in cans<br>in bottles | |  | |  |

Discuss what you think has changed the most. Which type of food, clothing, housing, tools, and transportation would you choose if you could? Why?

When writing the infusion strategies for the curriculum guides, the writers had three basic components to incorporate into each teaching/learning activity:

(1) Academic subject matter

(2) Occupational information

(3) Career development concepts

Academic subject matter. The use of subject matter presently being taught in the areas of mathematics, language arts, social studies, and science in elementary classrooms is one of the principles upon which the materials of the ETC Project are based. The concepts and subconcepts of the career development dimensions serve as new types of focus and organization rather than as replacements for the content of ongoing curricula. Meanwhile, it is presumed that much of a classroom teacher's present instructional program--especially in the skill areas of mathematics, reading, and English--will continue in the pattern best suited for local conditions and for one's own teaching talents an and techniques.

In order to provide guidelines for the subject matter contents of the ETC infusion strategies, a master scope and sequence chart for each of the four major subject areas was prepared. These subject areas were investigated with two perspectives in mind: (1) to determine the concepts ("strands," "themes," etc.) which tend to define the characteristic content of a given area; and (2) the assignment of more specific types of knowledge and skills to particular grade levels. The basic sources for both these perspectives included materials (textbooks, brochures, scope and sequence charts) produced by eleven different major publishers of standard text series used in public schools. In addition, professional books authored by relevant authorities in the respective fields were consulted. This study resulted in the identification of the following broad headings for each of the academic subject matter areas:

Mathematics - Facts and Operations
Measurement
Problem Solving
Geometry
Figural Representations

Science - Earth and Sky
Biology
Chemistry
Physics
Scientific Method

Social Studies - Geography
History
Economics
Political Science
Sociology-Anthropology

| | | |
|---|---|---|
| Language Arts | - | Grammar and Usage<br>Writing Skills<br>Listening and Speaking<br>Reading |

Under each of these headings, specific facts and concepts were listed according to the grade levels at which they are normally introduced in the various series of texts. "Introduction" in this sense implies continuing reinforcement through succeeding levels. Differences do exist, of course, in opinions about when and where certain things should be taught. The continuum runs all the way from "any subject can be learned at any age" to "fractions are for the fifth grade." In a curriculum for career education, there is a greater tendency toward flexibility at any given time and place than under traditional conditions of teaching. For this project, the master scope and sequence charts provided a pattern from which academic subject areas can be surveyed and their contents adapted to particular learning experiences involving career development concepts as well. These charts, together with the lists of teacher goals and pupil performance objectives from the career dimensions, helped to guide the writing processes which produced the infusion strategies.

Sample pages from the academic subject matter master charts are presented in Figure 3.

FIGURE 3

## SCIENCE
## SCOPE AND SEQUENCE

| CONCEPTS | KINDERGARTEN | FIRST GRADE | SECOND GRADE |
|---|---|---|---|
| EARTH AND SKY | Local weather conditions, relate to weather maps<br>Current events to illustrate concepts/content: Apollo missions, natural disasters, etc. | The earth is shaped as a slightly irregular ball.<br>. . . has parts: land, water, air<br>. . . rotates and revolves around the sun<br>Water and air do things together - weather<br>Use thermometer, study clouds, rain, sunshine, wind | Earth depends on the sun for heat and light.<br>Earth is one of many planets.<br>Sun is one of many stars.<br>Earth and sun have gravity, attract each other. |
| BIOLOGY | Pets and their care<br>Growing plants and their care<br>Observation of insects and other animals<br>Day and night animals | There are many kinds of animals: insects, birds, mammals, fish, reptiles.<br>Animals different in size, structure, movement<br>Plants are different in roots, stems, flowers, seeds.<br>Living things grow. | Animals in same group reproduce in similar ways.<br>Living things need food and water to grow.<br>Living things change as they grow.<br>Plant parts have different functions.<br>Living things adjust to seasons. |
| CHEMISTRY | | Material things can be classified as gas, liquid, or solid. | Movements of molecules determine whether things are gas, liquid, or solid. |
| PHYSICS | Functions of shape: round things roll, etc.<br>Simple household utensils and tools | Forces move things: machines, muscles, magnets, wind, water.<br>Light makes it possible to see: shadows.<br>Light travels through some things. | Light, sound, magnetism, electricity, are forms of energy.<br>Electricity moves through a conductor in a circuit.<br>Energy can change form.<br>Wheels help to move things. |
| SCIENTIFIC METHOD | Textures<br>Use of senses to gather data<br>Categorizations | We observe with our senses.<br>Describe, find similarities/differences.<br>Ask questions, find answers.<br>Investigative and evaluative techniques vary. | Special instruments help us to observe.<br>Things can be compared by measuring.<br>The scientist needs to tell time. |

FIGURE 3 (CONT'D.)

## SCIENCE
## SCOPE AND SEQUENCE

| CONCEPTS | THIRD GRADE | FOURTH GRADE |
|---|---|---|
| EARTH AND SKY | Earth has four parts: atmosphere, rocks and land, water, living things.<br>The surface of the earth changes constantly.<br>Relief maps show the earth's surface.<br>Rotation and revolution of earth produce day and night, seasons. Shape of earth makes for varying angles of sunlight.<br>Time is measured by earth, sun, moon movements.<br>Solar system contains planets and their moons.<br>Constellations are groups of stars. | Atmosphere can be described in terms of its pressure, relative humidity, temperature, wind speed and direction.<br>Water moves in a vertical cycle.<br>Rocks tell the earth's history in layers.<br>There are inner regions of the earth.<br>Soil can be conserved.<br>Celestial motions can be predicted.<br>Erosion and depletion of soil |
| BIOLOGY | Living things depend upon and adapt to their environment.<br>Different environments support different forms of life.<br>Man can control the environments of living things: garden, zoo, cities.<br>Living things are made up of cells which need food, air, waste disposal, reproduce.<br>Some living things metamorphose. | Green plants can absorb, transport, and store materials used in food manufacture.<br>Man can choose and change his habitat.<br>Cell walls of plants and animals are different.<br>Animals and plants range from one-celled to very complex organisms.<br>Systems and organs of the human body |
| CHEMISTRY | Matter is made up of atoms and molecules. | Matter is composed of atoms and molecules.<br>Chemical changes involve rearrangement of atoms and molecules.<br>Solid, liquid, and gaseous states have definitive properties.<br>Chemical reactions can be dangerous. |
| PHYSICS | Heat moves from hot to cold in transfer.<br>Heat causes things to expand and contract.<br>Sounds produce and are produced by vibrations.<br>Pitch depends upon frequency. | How magnets are used.<br>Heating and cooling affect materials.<br>Electricity is explained by atomic structure, flow of electrons, charges.<br>Waves, pitch, frequency, acoustics in sound<br>Sight, optical instruments, focusing in light |
| SCIENTIFIC METHOD | Scientific knowledge accumulates.<br>Special instruments are used to study the universe.<br>Distance, mass, and time can be measured. | Famous scientists have made historic discoveries.<br>Comparisons are made by careful measurements.<br>Things are classified according to likenesses. |

FIGURE 3 (CONT'D.)

SCIENCE
SCOPE AND SEQUENCE

| CONCEPTS | FIFTH GRADE | SIXTH GRADE |
|---|---|---|
| EARTH AND SKY | Time is a continuum of which recorded history is a very small part.<br>The moon has phases, affects tides, causes eclipses, used in some systems of time.<br>Weather can be forecast: meteorology.<br>Layers of atmosphere affect radiation from sun.<br>Different clouds appear in different layers.<br>Prevailing winds have specific directions. | What forces are effecting changes in the earth today? Oceanography, meteorology, ecology<br>There are several theories of the earth's origin.<br>Living things have left a fossil history.<br>Ecosystems are made up of living and nonliving components.<br>Triangulation to measure distance to stars<br>Orbiting bodies follow laws of motion.<br>Space travel<br>Copernicus versus Ptolemy. |
| BIOLOGY | Early life forms have become extinct in many cases.<br>Cells multiply and develop into tissues and organs.<br>Living things begin as a single cell.<br>Plants produce food by photosynthesis.<br>Human body functions via a series of systems.<br>How the eye sees<br>How the ear hears | Animals and plants develop into complex organisms from a small single cell.<br>Characteristics of living things are related to a genetic code.<br>Concepts related to microbes, disease, vaccination<br>Dependence of all life upon photosynthesis.<br>Skeletal and nervous systems of human body |
| CHEMISTRY | Chemical changes are molecular changes.<br>Elements have specific gravity.<br>Elements are represented by symbols.<br>Matter remains constant during chemical change.<br>Crystals are formed by regular chemical reactions.<br>Elements have one type of atom in a molecule. | Chemical energy can be converted into electrical energy. |
| PHYSICS | Bodies in space are in constant change.<br>Heat, radio, and TV waves are forms of radiant energy.<br>Machines take advantage of forces.<br>Vectors show strength and direction of force.<br>How steam and gasoline engines move things<br>How musical instruments produce sounds | Particle versus wave theory of light.<br>Reflection, refraction, mirrors, telescope<br>Dispersion of white light: color<br>Electrical charges, circuits, currents<br>Nuclear reactions related to radiant energy of sun and other stars. |
| SCIENTIFIC METHOD | Scientists explore space and the oceans.<br>They make discoveries, test hypothesis, draw tentative conclusions, make new experiments. | Research in continued and controlled experimentation<br>How weights of measurement were determined: English and metric<br>New fields of investigation illustrate growth of scientific knowledge and opportunities for careers. |

Occupational information. The ETC rationale for the use of occupations is that occupations serve as the vehicle to accomplish the process of infusing career development concepts and subject matter concepts. The selection of specific occupations for the ETC Project stemmed from two cardinal considerations: (1) they should primarily involve occupations within the likely experiential background of the young child and preadolescent, with the occasional introduction of a new area, and (2) they should represent each of the 15 U.S.O.E. occupational clusters, once in grades 1-2, once in grades 3-4, and once in grades 5-6. In addition, effort was made to choose occupations that would include a range of operational levels from unskilled to professional. Children's perspective and knowledgeability of occupations was also sought by means of interviews and activities with pupils at the Laboratory School of Eastern Illinois University. In all cases there was no attempt to steer children into specific occupational emphases. The intention, rather, was to provide a survey of a wide range of occupational areas from which an individual could begin to consider his own potentialities and to capitalize upon the excellent motivation that occupations can provide.

The philosophy of the ETC Project is that at the K-6 level, in general, it does not matter which occupations are chosen. In fact, occupations do not have to be used. However, occupations are highly motivational in nature and serve as an excellent means to help students acquire career development and subject matter processes and content. Specific occupations have been used for a very good reason which is based upon child growth and development: Intellectual growth and development take place through a sequence of concrete experiences followed by abstractions.

Figure 4 identifies the occupations used in the development of ETC curriculum materials and the cluster in which the occupation can be found.

FIGURE 4

USOE OCCUPATIONAL CLUSTERS

| DIMENSION | DECISION MAKING 1 | DECISION MAKING 2 | LIFESTYLE | COPING BEHAVIORS 1 | COPING BEHAVIORS 2 | SELF-DEVELOPMENT 1 | SELF-DEVELOPMENT 2 | SELF-DEVELOPMENT 3 |
|---|---|---|---|---|---|---|---|---|
| Readiness Level | CM<br>Commercial Artist | PU<br>Fireman | MD<br>Grocer | CN<br>Construction Machine Operator | PU<br>Teacher | AN<br>Landscaper | HR<br>Athlete | CH<br>Homemaker |
| First Experience Level | TR<br>Pilot | HH<br>Licensed Practical Nurse | HR<br>Theater Manager | PU<br>Policeman | MS<br>Diver | FH<br>Actor | MD<br>Deliveryman | AN<br>Ranch Hand |
| Second Experience Level | CH<br>Home Service Representative | CN<br>Electrician | AN<br>Nurseryman | CM<br>Telephone Operator | PE<br>Clergyman | MG<br>Upholsterer | EC<br>Meteorologist | BO<br>Secretary |
| Third Experience Level | HR<br>Recreation Director | AN<br>Forester | MG<br>Industrial Sewing Machine Operator | TR<br>Brakeman | AN<br>Grain Elevator Operator | PU<br>Librarian | PE<br>Waiter/ Waitress | CH<br>Day Care Worker |
| Fourth Experience Level | CM<br>Newspaper Reporter | FH<br>Curator | BO<br>Bank Teller | HH<br>Dental Assistant | EC<br>Air Pollution Control Engineer | CN<br>Architect | MD<br>Service Station Attendant | MS<br>Fish Hatcher |
| Fifth Experience Level | EC<br>Soil Conservationist | MD<br>Advertising Copywriter | CN<br>Carpenter | FH<br>Musician | BO<br>Accountant | HH<br>Pediatrician | HR<br>Travel Agent | CM<br>Television Announcer |
| Sixth Experience Level | PE<br>Real Estate Salesman | PU<br>Detective | MS<br>Oceanographer | MD<br>Retail Salesclerk | MG<br>Industrial Engineer | AN<br>Poultry Farmer | CH<br>Chef/Cook | TR<br>Truck Driver |

AN - Agri-Business and Natural Resources
BO - Business and Office
CM - Communications and Media
CN - Construction
CH - Consumer and Homemaking

EC - Environmental Control
FH - Fine Arts and Humanities
HH - Health
HR - Hospitality and Recreation
MG - Manufacturing

MS - Marine Science
MD - Marketing and Distribution
PE - Personal Services
PU - Public Services
TR - Transportation

Career development concepts. Procedures for identifying the career development concepts are considered in Chapter III. The seven dimensions of career development and the major concepts within each dimension as identified by the ETC Project appear in Figure 5. Scope and sequence charts for the four dimensions classified as "developmental" are presented in Figure 6. Figure 7 contains the "interacting" dimensions, major concepts, and those subconcepts deemed appropriate for all experience levels and thus integrated into the materials developed for the developmental dimensions of Coping Behaviors, Decision Making, Lifestyle, and Self-Development.

## FIGURE 5

## CAREER DEVELOPMENT MAJOR CONCEPTS

Attitudes and Appreciations

Society is dependent upon the productive work of individuals.

Career Information

Basic career information will aid in making career-related decisions.

Coping Behaviors

Certain identifiable attitudes, values, and behaviors enable one to obtain, hold, and advance in a career.

Individuals can learn to perform adequately in a variety of occupations and occupational environments.

Decision Making

Life involves a series of choices leading to career commitments.

Basic components of the decision-making process can be applied to the establishing of personal goals and the making of career-related decisions.

Educational Awareness

Educational skills and experiences are related to the achievement of career goals.

Lifestyle

Work affects an individual's way of life, in that a person is a social being, an economic being, a family being, a leisure being, and a moral being.

Self-Development

An understanding and acceptance of self is important.

Social, economic, educational, and cultural forces influence self-development.

Individuals differ in their interests, aptitudes, values, and achievements.

## FIGURE 6

### DEVELOPMENTAL DIMENSIONS
### SCOPE AND SEQUENCE

| DIMENSION | MAJOR CONCEPT | SUBCONCEPTS FOR EXPERIENCE LEVELS READINESS THROUGH SIXTH | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | READINESS LEVEL | FIRST LEVEL | SECOND LEVEL | THIRD LEVEL | FOURTH LEVEL | FIFTH LEVEL | SIXTH LEVEL |
| COPING BEHAVIORS | Certain identifiable attitudes, values, and behaviors enable one to obtain, hold, and advance in a career. | An individual should learn to cope with authority exercised by others. | An individual should learn to cope with the rights and feelings of others. | An individual should learn how to give and take criticism. | A contribution to group effort can be made by demonstrating ability to both compromise and exercise influence in achievement of group goals. | Certain behaviors are appropriate to specific job settings. | There is a universality of feelings and aspirations of all people--regardless of physical appearance, nationality, creed, sex, or ethnic background. | There are effective interpersonal relations skills for giving or evaluating instructions. |
| | Individuals can learn to perform adequately in a variety of occupations and occupational environments. | Different skills are required for different tasks. | Several skills may be required to perform a given task. | Some skills can be transferred from one job to another. | Performance requirements for a job vary with the work setting. | Performance requirements for a job may change with time. | It is important for a person to be able to make the transition from one job to another. | There are characteristics which differentiate between occupations--both within and between job families. |
| DECISION MAKING | Life involves a series of choices leading to career commitments. | Choice means "making up one's mind" and there are certain situations where one can make choices. | Things change and these changes influence the choices and decisions one makes. | An individual's decisions affect himself and others. | People change and these changes influence the choices and decisions one makes. | Decision making involves risks. | Decision making can precipitate chain reactions. | Previous decisions, peers, gratifications, needs, interests, and career information influence present and future decisions. |
| | Basic components of the decision-making process can be applied to the establishing of personal goals and the making of career-related decisions. | An individual should recognize what "a goal" is and learn how to set one's own goals. | Problems which conflict with one's goals can be identified and assessed. | An individual should consider alternative ways to reach a given goal. | Decision making plays a role in the setting of immediate and long-range goals. | The decision-making process can be used to set priorities in developing personal goals. | Setting goals can be enhanced by analyzing decision-making processes. | The decision-making process can be used to determine one's preferences, at that point in time, between various job families. |

FIGURE 6 (CONT'D.)

DEVELOPMENTAL DIMENSIONS
SCOPE AND SEQUENCE

| DIMENSION | MAJOR CONCEPT | SUBCONCEPTS FOR EXPERIENCE LEVELS READINESS THROUGH SIXTH | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | READINESS LEVEL | FIRST LEVEL | SECOND LEVEL | THIRD LEVEL | FOURTH LEVEL | FIFTH LEVEL | SIXTH LEVEL |
| LIFESTYLE | Work affects an individual's way of life, in that a person is a social being, an economic being, a family being, a leisure being, and a moral being. | Most people work and there are many reasons why people work. | Family members perform work they are capable of performing, responsibilities are shared, and the family is an interdependent unit. | Lifestyles within a community differ. | Relationships exist between a person's occupation and the people with whom a person tends to associate. | Moral principles are an integral part of one's work life. | Relationships exist between desired lifestyles and career monetary rewards. | Leisure-time activities and interests may lead to a career, and one's career may, in turn, affect the amount and use of leisure time. |
| SELF-DEVELOPMENT | An understanding and acceptance of self is important. | Awareness of oneself within the context of the family structure is important. | An individual experiences various roles--friend, student, group member, etc. | There are certain physical, social, and emotional characteristics which make an individual unique. | An individual's feelings relative to happiness, fear, anger, loneliness, etc., are diverse. | A person's membership in a group affects the group as well as himself. | Interests and abilities mature and change as well as one's physical being. | There is a relationship between an individual's knowledge and acceptance of self and his career preference. |
| | Social, economic, educational, and cultural forces influence self-development. | An individual is influenced by other people. | The school can provide an opportunity to enhance self-development. | An individual's feelings and the feelings of others relate to commonly held beliefs and customs. | Groups outside of school influence an individual's personal development. | An individual is influenced by economic forces. | Changes in an individual influence his environment and changes in environment influence him. | An individual's values and personal goals are influenced by the values of other people. |
| | Individuals differ in their interests, aptitudes, values, and achievements. | An individual should be aware of the tasks that he performs and begin to determine his interests in these tasks. | An individual's interests, aptitudes, values, and achievements are not always the same as those of his peers. | An individual has social, physical, and intellectual aptitudes for various tasks. | Individuals differ in their physical characteristics. | Achievements in school and out of school are often dependent upon interests, aptitudes, and values. | An individual can differentiate between himself and others in terms of interests, aptitudes, values, and achievements in and out of school. | There is a relationship among interests, aptitudes, achievements, values, and occupations. |

FIGURE 7

## INTERACTING DIMENSIONS
## SCOPE AND SEQUENCE

| DIMENSION | MAJOR CONCEPT | SUBCONCEPTS APPROPRIATE FOR ALL EXPERIENCE LEVELS (READINESS THROUGH SIXTH) |
|---|---|---|
| EDUCATIONAL AWARENESS | Educational skills and experiences are related to the achievement of career goals. | Knowledge and skills in subject matter areas are helpful in occupational competence.<br>Career-oriented learning may take place in school or out of school.<br>Learning is a lifelong process.<br>Learning achievement depends upon effort and ability. |
| ATTITUDES AND APPRECIATIONS | Society is dependent upon the productive work of individuals. | Completion of a worthwhile task has value for the worker and for society.<br>Work involves the acceptance of responsibility for a task.<br>A great many tasks can be performed by men or women.<br>Most occupations include common expectations, such as punctuality, dependability, and avoidance of excessive absence.<br>A given work setting requires certain policies and procedures.<br>Specialized occupations result in an interdependent society. |

FIGURE 7 (CONT'D.)

## INTERACTING DIMENSIONS
## SCOPE AND SEQUENCE

| DIMENSION | MAJOR CONCEPT | SUBCONCEPTS APPROPRIATE FOR ALL EXPERIENCE LEVELS (READINESS THROUGH SIXTH) |
|---|---|---|
| CAREER INFORMATION | Basic career information will aid in making career-related decisions. | Occupations may have certain dress requirements.<br>Occupations require the use of specific materials and equipment.<br>Occupations have their own vocabularies.<br>The individual worker determines which aspects of an occupation may be pleasant or unpleasant.<br>Occupations have their own work settings.<br>Occupations require special personal characteristics.<br>Earnings vary with occupations.<br>Career development includes progression through stages of educational and occupational training.<br>Costs of training for occupations vary.<br>Technological, economic, social, and political factors influence supply and demand of jobs. |

Master Index of Infusion Strategy Contents. The index is tied very closely to the effective use of the contents of the guides. The index is designed to permit the teacher who is teaching about an occupation because it is of high interest in a geographic area or because it is of special interest to the children to choose an infusion strategy by occupational theme.

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Freedom of the Press | Modern life has roots in the past. | 232 |
| DM | Curiosity Created the Curator | Curator | Mini-Museum | Human experience is continuous.<br>Modern life has roots in past. | 526 |
| LS | Teller, Like It Is | Bank Teller | Banks from the Beginning | Modern life has roots in the past.<br>Societies have changed and are changing.<br>American values and traditions | 236 |
| SD | Space for Special People | Architect | Architect's License | Before and after relationships | 186 |
| SD | Attendant Economics | Service Station Attendant | From There to Here to There | Modern life has roots in the past.<br>Consequences in other times and places | 441 |

Or, it permits the teacher to select an appropriate infusion strategy according to particular subject matter concepts being taught.

LANGUAGE ARTS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Grammar and Usage) | | | | | |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Read All About It! | Uses of language | 208 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Rewriting and Headlining | Labeling and classifying | 220 |
| DM | Curiosity Created the Curator | Curator | A Few of My Favorite Things | Common and proper nouns, verbs, adjectives | 536 |
| DM | Curiosity Created the Curator | Curator | Sharing Culture Through Language | Origins of English words<br>Deviations from other languages | 540 |

Or, if the teacher feels that the children need work in one of the career development areas, activities may be selected and taught from that section.

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| DM | Change for Fun with Recreation | Recreation Worker | Safe Cycling | Machines move things. | 185 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Don't Lack a Good Back | Forces move things. | 182 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | How Do you Do It? | Machines move things.<br>Simple machines | 206 |

A complete Master Index of Infusion Strategy Contents can be found in the appendix of this report.

Career Education Curriculum Model K-6. The ETC Project developed the following model to illustrate how career development concepts (developmental and interacting) and subject matter concepts (in this case primarily from the areas of language arts, mathematics, science, and social studies) appropriate at each experience level K-6 can be brought into a meaningful career education program which utilizes and involves the school, the community, parents, and students. The model appears as Figure 8.

## Field Testing Phase

Field testing of ETC materials was conducted at four sites. Field testing began in November 1973 at one site and in January 1974 at the other three sites. All field testing was then completed on April 1, 1974.

Chapter III details the procedures used in the field testing.

## Dissemination and Utilization Phase

This phase actually began at the outset of the project. Upon beginning the project, permission was secured from the USOE Copyright Office to obtain developmental copyright for ETC materials. In addition, before materials were ever produced, publishers were alerted to the project and the nature of the materials that would result from project efforts.

Two project products were disseminated immediately upon their completion and are now being utilized nationwide. These are (1) The Enrichment of Teacher and Counselor Competencies in Career Education K-6--An Annotated Bibliography, and (2) A Curriculum Design: Concepts and Components.

Several publishers have shown continued interest throughout the project. At this time, project products have been submitted to interested publishers for their review and for potential publishing.

Regardless of how much thought is given to building a transportable curriculum model, educational personnel have to be prepared to use the products. This preparation should be initiated at the beginning of the project and developed throughout the course of the project. Such products do not have to be complicated or necessarily incorporate a whole new idea to necessitate building a desire to want the product. But the ETC Project staff feels that this preparation and spurring on of personnel who will use the products is most important and needed.

Efforts are currently underway at Eastern Illinois University to secure funding to train curriculum personnel.

Once it is decided how products will be mass produced, the following steps will be a part of the dissemination process:

1. Announcement of the products available will be made in national professional periodicals.
2. Announcement of products available will be made to all currently funded Part C and Part D Projects.

# FIGURE 8

## CAREER EDUCATION CURRICULUM MODEL (K-6)

*Enrichment of Teacher and Counselor*
*Competencies in*
*Career Education Project*

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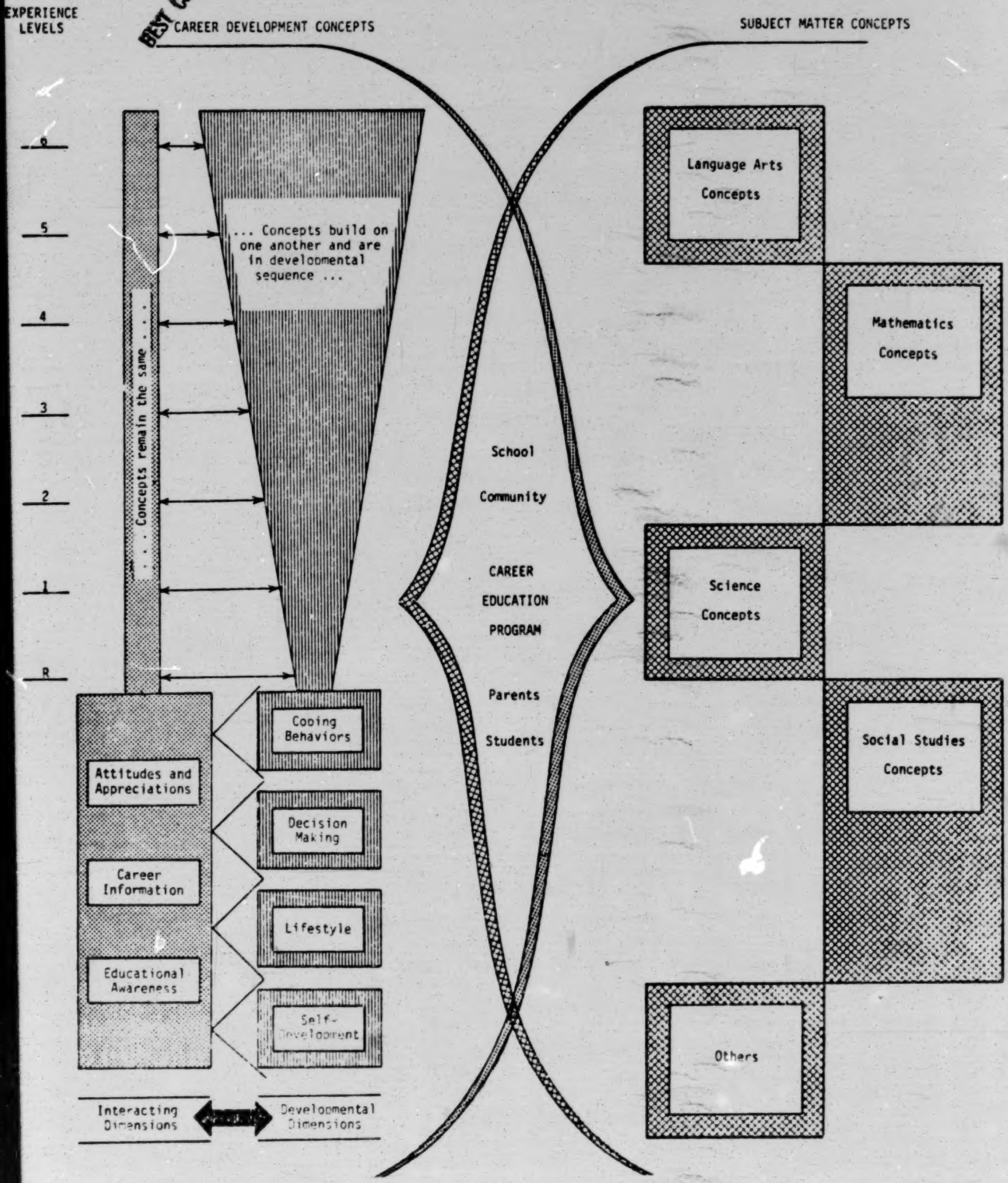

EXPERIENCE LEVELS
CAREER DEVELOPMENT CONCEPTS
SUBJECT MATTER CONCEPTS
6
5
4
3
2
1
R
. . . Concepts remain the same . . .
... Concepts build on one another and are in developmental sequence ...
Attitudes and Appreciations
Career Information
Educational Awareness
Coping Behaviors
Decision Making
Lifestyle
Self-Development
Interacting Dimensions
Developmental Dimensions
School
Community
CAREER EDUCATION PROGRAM
Parents
Students
Language Arts Concepts
Mathematics Concepts
Science Concepts
Social Studies Concepts
Others

3. Announcement of products available will be made to the National Network for Coordination of Curriculum for Vocational and Technical Education.

4. A 10-page sample of the contents of the curriculum guides will be disseminated to representatives of the 50 states, District of Columbia, and Trust Territories at the EPDA 554 National Curriculum Diffusion Seminar during a workshop conducted by the ETC staff.

5. The commercial publisher will conduct mass marketing activities for the project products.

# CHAPTER III

# PROCEDURES

## Evaluation Philosophy

Elements of both experimental design and evaluation design were used to collect data. The project staff chose not to adhere to a strict experimental design for reasons which have been stated quite adequately by Egon Guba and Daniel Stufflebeam:

> On the surface, the application of experimental design to evaluation problems seems reasonable, since traditionally both experimental research and evaluation have been used to test hypotheses about the effects of treatments. However, there are four distinct flaws with this reasoning.
>
> First, the application of experimental design to evaluation problems conflicts with the principle that evaluation should facilitate the continual improvement of a program. Experimental design prevents rather than promotes changes in the treatment because treatments cannot be altered in process if the data about differences between treatments are to be unequivocal. Thus, the treatment must accommodate the evaluation design rather than vice versa; and the experimental design type of evaluation prevents rather than promotes changes in the treatment. It is probably unrealistic to expect directors of innovative projects to accept conditions necessary for applying experimental design. Obviously, they can't constrain their treatment to its original definition just to ensure internally valid end-of-year evaluative data. Rather, project directors must use whatever evidence they can obtain continually to refine and sometimes radically to change both the design and its implementation. It is thus contended here that conceptions of evaluation are needed which would stimulate rather than stifle dynamic development of programs.
>
> A second flaw in the experimental design type of evaluation is that it is useful for making decisions after a project has run full cycle but almost useless as a device for making decisions during the planning and implementation of a project. It provides data after the fact about the relative effectiveness of two or more treatments. Such data, however, are neither sufficiently specific and comprehensive nor are they provided at appropriate times to assist the decision maker to determine what a project should accomplish, how it should be designed, or whether the project activities should be modified in process. At best, experimental design evaluation reflects

> *post hoc* on whether a project did whatever it was supposed to do. At that time, however, it is too late to make decisions about plans and procedures which have already largely determined the success or failure of the project.
>
> *A third problem with the experimental design type of evaluation is that it is suited to the antiseptic conditions of the laboratory but not to the septic conditions of the classroom.* The potential confounding variables must either be controlled or eliminated through randomization if the study results are to have internal validity. However, in the typical educational setting this is nearly impossible to achieve. . . . Evaluation is not interested only in determining the relationship among variables in that best of all possible worlds--the laboratory; it is also concerned with determining what will happen in the worst of all possible worlds. Thus, far from wishing to *screen out* possible sources of interference, evaluation is actually concerned with *inviting interference* so that results under the worst possible circumstances can also be assessed.
>
> A fourth flaw inherent in the application of conventional experimental design is the possibility that *while internal validity may be gained through the control of extraneous variables, such an achievement is accomplished at the expense of external validity.* If the extraneous variables are tightly controlled, one can have much confidence in the findings pertaining to how an innovation operates in a controlled environment. However, such findings may not be generalizable to the real world at all since in that world the so-called extraneous variables operate freely. Clearly it is important to know how educational innovations operate under real world conditions.[1]

With this evaluation philosophy in mind, the staff set out to formulate an evaluation plan which would provide the kind of continuous feedback that would improve the main thrust of the project--the development of K-6 career education curriculum guides--and at the same time provide data on the use of the guides in various treatment groups.

## The Evaluation Design

The evaluation design for the project consisted of three basic types:

1. *Micro evaluation* by the project staff of certain aspects of the project. In some cases data was gathered which is descriptive in nature; in other cases data was gathered from which inferences could be drawn.

---

[1] Egon G. Guba and Daniel L. Stufflebeam, *Evaluation: The Process of Stimulating, Aiding, and Abetting Insightful Action*, An Address Delivered at the Second National Symposium for Professors of Educational Research, Sponsored by Phi Delta Kappa, Boulder, Colorado, November 21, 1968, pp. 14-16. (Mimeographed).

2. Macro evaluation by the project staff of the entire project to obtain an overall assessment of the value of project efforts.

3. Meta evaluation by third-party evaluators to assess effectiveness of (1) research and evaluation procedures used by the project staff, (2) overall management of the project, and (3) conclusions drawn by the project staff relative to usability of project products.

Management of the project was evaluated by the third-party evaluators. Independent interviews with each of the project staff members, interviews with the Dean of the School of Education and the Occupational Teacher Education Coordinator, assessment of project progress according to the timeline for the project, and assessment of staff morale and cohesiveness were some of the factors used to evaluate management of the project.

Management of a project is, of course, important. However, evaluation efforts were primarily directed at evaluating the curriculum guides:

Coping Behaviors Dimension Guide
Decision Making Dimension Guide
Lifestyle Dimension Guide
Self-Development Dimension Guide
Interacting Dimensions Handbook (Attitudes and Appreciations, Career Information, and Educational Awareness Dimensions)

Evaluation of the guides was divided into three components: (1) construct and content validity, (2) administrative feasibility and product usability and (3) student learning gain.

Construct and content validity. The identification of career development concepts is a phase that has been overlooked in the establishment of many career education programs. Thus, before career education curricular materials could be developed, some determination of the content of career development had to be made. Construct validity attempts to get at, "What objectives are to be included in the proposed curriculum?" Once the objectives have been identified, curricular materials can be developed. However, an assessment is then needed to see, "Does the content of the materials relate to the objectives that have been identified and does the content cover the kinds of areas it purports to cover?" The construct validity of the career development objectives and the content validity of the curricular materials were determined by the following procedures:

1. After an extensive review of career development theory and after looking at career development concepts that had been identified by seven other career development projects, the ETC staff identified certain career development concepts that should be a part of a career education program.

2. Where grade levels were indicated, the recommended grade level was typed on each card.

3. Each project was given code letters and these code letters were placed on each card.

4. Approximately 1,500 concepts were typed on index cards.

5. Cards were first sorted into stacks by concept.

6. Notations were made of how many projects indicated that a particular concept should be included in a K-6 career education project.

7. Notations were made regarding the grade level that each project had assigned to the concept.

8. Closely related concepts were then grouped together.

9. The groups of related concepts seemed to "break out" into eight distinct categories or dimensions.

10. Names were assigned to the dimensions: Attitudes and Appreciations, Coping Behaviors, Career Information, Decision Making, Educational Awareness, Economic Awareness, Lifestyle, and Self-Development.

11. After extensive discussion among staff members and after consulting with several members of the National Advisory Committee, it was determined that in order to avoid confusion with the economics dimension of elementary school social studies programs, that economic concepts should be woven into all the dimensions but that a separate category called "Economic Awareness" should be avoided.

12. The more generic concepts were sorted out from each dimension and were labeled "Major Concepts."

13. Other important concepts were sorted out by experience level and were labeled "Subconcepts."

14. Instruments to validate the major concepts and subconcepts were devised by the ETC staff (see Figures 9 and 10).

15. A Validation Task Force was selected to review the concepts. The nine-member Validation Task Force included an elementary school university teacher-educator, two elementary school teachers, one business-industrial representative, four public school career education project directors, and one state department vocational and technical education representative.

16. The Validation Task Force met for two days at project headquarters. After receiving an overview of the project and directions for using the validation instruments, the members

worked individually on the validation of the major concepts and subconcepts. Prior to the close of the two-day meeting, a group discussion with VTF members and ETC staff was held in order to determine necessary changes and modifications. These changes are discussed in Chapter IV.

17. Once the construct validity had been established, the curricular materials were developed.

18. The VTF was again used to determine content validity of the curricular materials. The VTF met at project headquarters for two days and used an instrument designed by ETC staff (see Figure 11) to assess content validity of the teaching units (infusion strategies) that had been written by the project staff. Staff members worked individually and their suggestions used for revision of materials prior to field testing.

19. Field testing teachers were also asked to evaluate the content validity of the teaching units (infusion strategies). Teachers completed an"Infusion Strategy Questionnaire" for each infusion strategy that was tested (see Figure 12).

Administrative feasibility and product usability. The immediacy of the need for K-6 career education materials as expressed by the public schools called attention to the fact that materials developed by the project staff had to have the capability of being accepted by the public schools. The feasibility criteria used by the staff are summarized below:

1. Will the materials fit into existing school programs? Will a complete reorganization of the curriculum be required or can these materials be easily assimilated into school programs?

2. Will the materials fit into the many patterns of school organization and school curriculum? Will the materials work in either a self-contained classroom or an open-classroom situation? Can multi-age groups and multi-ability groups use these materials?

3. Will the materials be in a price range that would permit school systems to use the materials? What types of audiovisual equipment will be needed to use the materials? Are the materials expendable? How much updating will be necessary?

4. Will the materials have "built-in" inservice and preservice training potential? Will the materials help lessen the teacher and counselor anxiety that is generally associated with introducing any new school programs?

5. Will the materials fit into the physical space available in schools? Is it necessary to have all the materials in one classroom or can the materials be physically placed in many locations?

6. Will the materials interest students? Is this another present-the-information, test-for-learnings, kind of approach? Or is this an "excitement" kind of learning where children can explore their feelings and thoughts about various life styles? Can measurement of cognitive learnings be subjugated to the measurement of affective learnings? Can the imperfect ways of measuring affective learnings be accepted by the teaching and counseling profession if it is obvious that students are involved and excited by the materials?

7. Will the materials have potential for acceptance by schools? If criteria 1-6 are met, will the climate for acceptance be present in the schools? Will the teacher and counselor education professions accept the theory behind the placement of career education materials in the elementary school curriculum? Will the teacher and counselor education professions accept the approach and content that are part of the materials?

Four types of data gathering techniques were used to gather data on administrative feasibility and product usability:

1. Structured interviews with students, teachers, and supportive staff (see Figures 13, 14, and 15)

2. Observations made by project staff and third-party evaluators

3. Questionnaires completed by parents (see Figures 16, 17, 18, and 19)

4. Pretest and posttest administration of an instrument to measure teacher attitudes toward career educators (see Figure 20)

Student learning gain. Evaluation of student learning took several limitations into account:

1. Actual testing of materials in classrooms could be conducted for five months only for a program that is designed to be used throughout the school year. This limitation was caused by the fact that the project was funded for a 24-month period, approximately one and one-half years was needed to write and develop the materials before they could be tested, and approximately six weeks was needed to analyze the data after testing was completed.

2. The design of the materials calls for evaluation of pupil achievement based upon sensitivity and judgment of the classroom teacher. The intelligent selection of evaluation means has a direct relationship to the actual learners involved and the local conditions. For example, writers of the materials believed that the K-6 classroom teacher is the best qualified person to decide whether a certain child should demonstrate a given knowledge "orally" or "in writing." The same consideration may be applied to the amount of knowledge or skill required. Rather than prescribe a posttest, the materials suggested that the pupil performance objectives for the respective infusion strategy content be used as bases for the individual teacher's evaluation of pupil achievement. With these objectives and their corresponding activities as starting points, the teacher may decide to designate:

   A CERTAIN NUMBER OF REQUIRED ACTIVITIES TO BE PERFORMED BY ALL PUPILS;

   or, A CERTAIN NUMBER OF ACTIVITIES WHICH MAY BE TREATED AS ELECTIVES BY THE CHILDREN;

   or, A COMBINATION OF REQUIRED AND ELECTIVE ACTIVITIES;

   or, A WRITTEN, ORAL, OR PERFORMANCE TEST CONSTRUCTED ACCORDING TO THE CONTENT AND ACTIVITIES ACTUALLY EXPERIENCED BY THE CHILDREN.

   The high reliance on teacher judgment relative to pupil gain of the content and processes under consideration did not mean that data could not be collected on pupil gain. Item #10 on the Infusion Strategy Questionnaire (see Figure 12) called for each teacher to describe evaluation procedures he/she used. Follow-up interviews were conducted on this item regarding teacher judgment relative to the effectiveness of the evaluation procedures that were used.

3. At best, the evaluation procedures could only measure short-range behaviors. Long-range outcomes, outcomes that are of great concern in career education, could not be measured.

4. The curricular materials are integrated with subject matter areas and are designed to be used throughout a school year. In some cases the five-month period of time in which the materials were tested (November-March) was not an appropriate time for use of some materials. For example, some of the materials related to mathematics were designed for use near the end of a school year. Therefore, some students may not have been ready to use these materials during the time in the school year when testing took place.

5. Much of the content of career education is affectively oriented and gains in affective achievement are difficult to measure.

6. The value of using pretest and posttest achievement scores in subject matter areas was questioned because of the short testing period. Therefore, no data other than teacher judgment was gathered on subject matter achievement.

In spite of the above limitations, however, evaluative data on student career development gains were collected through pretest and posttest interviews of a random sample of K-6 students. Students were asked questions which pertained to general career development gains. Interviews were conducted under carefully controlled conditions following the structured interview form shown in Figure 21. Two university teacher-educators who were also ETC Project staff members conducted the interviews. Interviews were taped so that data written on the interview form during the interview could be verified. Chapter IV presents an analysis of the data gathered during the interviews.

Form 9

## FIGURE 9

## CRITERIA FOR VALIDATION OF MAJOR CONCEPTS

1. Are there too many major concepts? (Circle one) Yes No

If your response was "yes," answer the following questions:

1.1 List the concepts that should be eliminated.

1.2 List the concepts that should be combined.

2. Are there other major concepts which should be added? (Circle one)

Yes No

If your response was "yes," answer the following questions:

2.1 List the concepts which should be added.

2.2 Which (if any) of the concepts you listed under 2.1 could be subconcepts under existing major concepts?

3. List (by concept) any changes in wording which you think would improve the statement of the concept.

Form 9

## FIGURE 10

## CRITERIA FOR VALIDATION OF SUBCONCEPTS

Dimension: ATTITUDES AND APPRECIATIONS

Major Concept: All productive and honest work is good and contributes in a positive way to society.

1. Do all of the subconcepts relate directly to the major concepts? (Circle one) Yes No

   If your response was "no," answer the following questions.

   1.1 List the subconcepts which do not relate.

   1.2 Should any of the subconcepts be placed under another major concept? If so, identify the concept and the appropriate experience level.

2. Are any of the subconcepts relating to this concept repetitious of subconcepts within another major concept? If so, which ones?

3. Does the major concept spiral through the seven experience levels via the subconcepts?

4. List any changes in wording which you think would improve any of the subconcepts. (Identify the subconcept and its experience level.)

5. Can you suggest alternative subconcepts which you think would be better for this major concept?

6. Should other subconcepts be added at the various experience levels? If so, list the subconcept(s) and the experience level(s) at which they would be taught.

## FIGURE 11

## EVALUATION INSTRUMENT FOR CAREER DIMENSION FRAMEWORKS AND INFUSION STRATEGIES

Form 10

### 1. DIMENSION FRAMEWORK

#### 1.1 Introduction to the Dimension

Does the "Introduction to the ____________ Dimension" give the user of the materials a feeling for the "content" of this dimension?

Too much material is provided ______________________________

Needs more elaboration ____________________________________

#### 1.2 Introduction to Each Major Concept

Does the "Introduction" to each major concept give the user of the materials a feeling for the "content" of each major concept? (Note--if a dimension contains more than one major concept, look at the "Introductions" to all major concepts.)

Too much material is provided ______________________________

Needs more elaboration ____________________________________

#### 1.3 Subconcepts by Experience Level (Note--if a dimension contains more than one major concept, look at subconcepts by experience level for all major concepts.) React to the following:

Layout of the subconcepts __________________________________

____________________________________________________________

Art work for the subconcepts. Do you detect any minority group stereotyping? Does the art work convey the idea embodied in the subconcept? In your comments, make reference to Dimension and Level. Example: Decision Making, First Experience Level--No relationship between picture and subconcept. ______________

____________________________________________________________

____________________________________________________________

____________________________________________________________

____________________________________________________________

#### 1.4 Teacher Goals

Does the "Introduction" give the user of the material a feeling for why teacher goals are included?

Too much material is provided ______________________________

Needs more elaboration ____________________________________

Are teacher goals written in a readable style? ______________

FIGURE 11 (CONT'D.)

EVALUATION INSTRUMENT FOR
CAREER DIMENSION FRAMEWORKS AND INFUSION STRATEGIES

1.5 Pupil Performance Objectives Form 10

Does the "Introduction" give the user of the materials a feeling for why pupil performance objectives are included?

Too much material is provided ____________________

Needs more elaboration ____________________

What is your reaction to the layout of the pupil performance objective pages? ____________________

____________________

Are cognitive objectives really cognitive? ____________________

____________________

Are affective objectives really affective? ____________________

____________________

Are psychomotor objectives really psychomotor? ____________________

____________________

How do you feel about the style in which the objectives are written? ____________________

____________________

FIGURE 11 (CONT'D)

## EVALUATION INSTRUMENT FOR CAREER DIMENSION FRAMEWORKS AND INFUSION STRATEGIES

### 2. INFUSION STRATEGY

Form 10

#### 2.1 Title Page

Is enough identifying information provided? ____________________

Is enough emphasis given to the concepts that are to be conveyed in this infusion strategy? ______________________________________

#### 2.2 Orientation

Is there any additional information that should be included in the orientation? ______________________________________________

____________________________________________________________

Are there phrases or sentences you do not understand? __________

____________________________________________________________

#### 2.3 Pupil Performance Objectives

Do the objectives adequately infuse the career development subconcept with the occupation? ________________________________________

#### 2.4 Summary of Concepts

Do you have any suggestions for changing the layout of these pages?

____________________________________________________________

Can you tell from the "Summary of Concepts" what concepts are included in each activity? _____________ In each REACT page? _____________

#### 2.5 Infusion Strategy Activities

What is your reaction to the layout of the activities? ___________

____________________________________________________________

Does "spelling" out of the concepts in the left column aid in making clear to the teacher the concepts that are meant to be conveyed by the suggested activities? ___________________________________

____________________________________________________________

Are activities appropriate for the grade or experience level? _____

Could most classroom teachers be able to conduct the suggested activities? ______________________________________________________

Is the writing style for the activities a readable style? ________

____________________________________________________________

FIGURE 11 (CONT'D.)

EVALUATION INSTRUMENT FOR
CAREER DIMENSION FRAMEWORKS AND INFUSION STRATEGIES

Form 10

2.6 REACT Pages

Do the REACT pages help reinforce the suggested activities? ______

______________________________________________________________

Is the art work appropriate for the experience level? __________

Are the REACT page activities appropriate for the experience level?

______________________________________________________________

Do the REACT pages infuse career development and subject matter concepts? ____________________________________________

2.7 Reprise of Pupil Performance Objectives

Is it helpful to see how objectives that were written for a specific infusion strategy were adapted from the general objectives for the dimension? ________________________________________

______________________________________________________________

Is it helpful to see a summary of the subject matter concepts that were used in the infusion strategy? ____________________

2.8 General Comments

How do you feel about the readability of the entire strategy?

How do you feel about the organization of the entire strategy?

How do you feel about appropriateness of activity for use in a wide variety of school settings and geographic locations?

Do you feel that a teacher who uses this strategy will help gain an understanding of what infusion means? An understanding of the "Content" of career development?

Form #2 (Revised)

Site ____________________

School ____________________

FIGURE 12

## INFUSION STRATEGY QUESTIONNAIRE

NOTE: Fill out an "Infusion Strategy Questionnaire" for each infusion strategy that you test. Whether or not you test a complete strategy, please fill in the form.

1. Name of Teacher ____________________ 2. Teaching Level ____________

3. Title of Infusion Strategy ________________________________________

4. Check the name of the curriculum guide in which the infusion strategy is located:

| | | | |
|---|---|---|---|
| Coping Behaviors | ____ | Lifestyle | ____ |
| Decision Making | ____ | Self-Development | ____ |

5. The teaching activities including the REACT pages of an infusion strategy were planned for use at a grade level. Did you find the activities appropriate for the experience level of your students? Yes_____ No_____
Explain________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

6. Subject matter in mathematics, science, language arts, and social studies was correlated with suggested career education activities in the infusion strategy. Did the subject matter correspond with what you normally teach during the year? Yes_____ No_____ Explain________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

7. Each infusion strategy is written to a subconcept. The subconcept is found on the title page of the infusion strategy. Do the suggested activities help you teach the subconcept? Yes_____ No_____ Explain__________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

In the activities, subconcepts for Education Awareness, Attitudes and Appreciations, and Career Information are identified. Do the suggested activities help you teach the identified subconcepts? Yes_____ No_____ Explain__________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

8. A dimension framework immediately precedes infusion strategies in the guides. A dimension framework is based on a major concept and subconcepts and includes teacher goals and pupil performance objectives. How did you refer to the dimension framework as you were teaching the infusion strategy? ____________

9. Infusion strategy activities are to be adapted for individual classroom use. Tell any activities not specifically included in the infusion strategy which developed because of the presence of the field testing materials in your classroom. ____________

10. Check the Table of Contents in each guide to locate the Evaluation page. Which of the suggested evaluation procedures did you use with this infusion strategy?

Did you develop your own evaluation procedures? Elaborate ____________

11. This infusion strategy includes teaching activities and REACT pages. Please state your overall reaction to this infusion strategy. Let items such as pupil interest in the activities and REACT pages, ease with which the materials can or cannot be used in the classroom, etc., help guide your response

12. What suggestions do you have for improving this infusion strategy including REACT pages? (Do not overlook or omit any suggestions you might have. We have reserved staff time for further revision of the materials. Your suggestions will be appreciated.) ____________

FIGURE 13

Form #7
Teacher ______________________
Site ______________________
School ______________________
Grade Level ______________________

INTERVIEW GUIDE FOR TEACHERS

1. Now that you have had some time to become familiar with the materials, how would you use the materials next year?

2. Did you try any infusion strategies that you would not use again? Which ones?

3. Do you think you could take the career education concepts and objectives and develop your own strategies for weaving these concepts and objectives into the subject matter that you teach?

4. If you could have more inservice preparation for use of the materials, what kinds of inservice activities would you like to have? (Interviewer--leave this open ended, then ask the specific questions listed in #6.)

5. How much inservice preparation do you think is needed? (Interviewer--list the following and then check the one that the interviewee thinks is most appropriate.)

One-day session at your school ______

One-week workshop conducted at your school ______

Two- or three-hour session,once a week for 9 weeks at your school ______

Two- or three-hour session, once a week for 18 weeks ______

One course on university campus ______

Several courses on university campus ______

Full-time enrollment for 1 year at university ______

(OVER)

6. Which of the following inservice activities would appeal to you most? (Interviewer--give this page to the teacher and ask the teacher to place these in rank order. Mark "1" by the one that the teacher likes the most, "2" by the one she likes next best, etc.)

_______Actually going on field trips to see how field trips should be conducted

_______Demonstrations on how to teach students interviewing skills

_______Background reading on elementary school career education

_______Viewing films which explain the career education movement

_______Viewing and working with student materials that are available for use in career education programs

_______Visiting other classrooms to see how teachers are conducting career education activities

_______Experiencing an infusion strategy activity from the student point of view

_______Reviewing career education curriculum guides that have been developed by other school systems

_______Reviewing and clarifying ETC Dimension Guides

_______Methods and rationale for teaching any or all of the seven ETC dimensions (Decision Making, Self Development, etc.)

FIGURE 14

## INTERVIEW GUIDE FOR STUDENTS

Form #5
Interview Number ______________
Name of Child ______________
Level ______________
Teacher ______________
Site ______________
School ______________

1. Do you remember doing some things like (interviewer names four or five infusion strategy activities that were conducted in the classroom--activities can be secured from Form #2)?

   Which activities did you like best?

   Why?

   Which activities did you like least?

   Why?

2. When you did the (interviewer names an infusion strategy activity), did everybody do the same thing or did everybody do something different?

   What did you do?

3. Did the teacher give you any of these (interviewer shows child the REACT Pages that were used in the classroom) to work with?

| REACT Page Number (Take from lower right-hand corner) | Liked | Noncommittal | Disliked |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

NOTE: Interviewer--Use some blank REACT Pages and write children's suggestions for improvement on each page. Do not use a new page for each student. A REACT Page should reflect a composite of the suggestions made by students in one classroom.

FIGURE 15

Form # 6____________________
Interviewee____________________
Position____________________
Site____________________
School____________________

## INTERVIEW GUIDE FOR SUPPORTIVE STAFF

1. When were you first aware that teachers here in the building were testing some new materials for us? ____________________ How did you learn they were testing materials?

2. Was your work as a ________________ changed in any way while the teachers were working with the materials? __________ How?

3. Did you notice any changes in the physical appearance of the rooms? _______ If so, how did they change?

4. Did you notice any differences in types of requests from teachers for services? (Personalize this for the staff member being interviewed: librarian might be asked if she noticed any differences in requests for materials; audio visual person might be asked same question; principal might be asked if requests came for field trips, purchasing of materials, etc.; custodian might be asked if he was asked to move equipment.)

5. Is there anything else that you would like to say about changes that you might have noticed in regard to the students, the teachers, or you?

## FIGURE 16

## "ENGLISH VERSION" OF LETTER TO PARENTS

Dear Parent:

Within the past several years, public schools all across the United States have become more involved in developing career education programs. Career education attempts to have the student, the community, the school, and the home work together. It is the aim of career education to provide school activities which relate to the world of work.

Your child has been helping us test some career education materials. The materials are being developed so that students all over the United States will be able to have career education materials in their school program. The program is being supported by funds from the United States Office of Education, and we are quite proud that the Waukegan Public Schools were chosen to participate in this career education program.

Too often when new programs are being developed parents do not get to participate in helping evaluate the program. We need your help, now, to help us determine how we should improve the materials we have just tested. Will you please fill out the enclosed form TOMORROW and have your child return it to his/her teacher.

Sincerely,

Principal

## FIGURE 17

## "SPANISH VERSION" OF LETTER TO PARENTS

Estimados padres:

Durante los últimos años las escuelas públicas de los Estados Unidos se han interesado más en el desarrollo de programas educacionales para carreras. Estos programas tratan de que el alumno, la comunidad, la escuela y el hogar trabajen juntos. Es el propósito de dichos programas proveer actividades escolares que se relacionan con el mundo obrero.

Su niño nos ha estado ayudando a probar algunos materiales educativos. Los materiales están siendo desarrollados cosa que alumnos en todos los Estados Unidos puedan tenerlos en su programa escolar. Este programa recibe fondos de la Oficina de Educación de los Estados Unidos y nos sentimos muy orgullosos de que las escuelas de Waukegan fueran escogidas para participar en este programa.

Muy a menudo, cuando nuevos programas se están desarrollando, los padres no tienen la oportunidad de participar en la evaluación de los mismos. Necesitamos su ayuda, ahora mismo, en determinar cómo debemos mejorar los materiales que acabamos de probar. Favor de llenar MAÑANA el blanco incluido y haga que su niño lo devuelva a su profesor.

Atentamente,

Director

Form #4
Teacher ____________________
School ____________________

FIGURE 18

"ENGLISH VERSION" EVALUATION BY PARENTS

1. Did your child tell you that (he/she) was working with some career education materials? ____________ If so, what did (he/she) say?

2. Did you notice if your child had to bring materials from home for projects they were working on in connection with the career education activities?

   Did you notice any changes in regard to items your child was requested to bring from home? _____ More things? _____ Less things? _____

3. In the last two months would you say that your child: (Circle one choice in each category.)

   Talked (less more about the same) about school.

   Enjoyed school (less more about the same).

   Worked (harder less hard about the same) on his school work.

4. In the last two months has your child changed in any other way that you can think of?

5. Would you like to have career education continue to be a part of your child's school program? (Circle one.) Yes No

HAVE YOUR CHILD RETURN THIS FORM TO (HIS/HER) TEACHER.

Blanco #4
Maestro ______________________________
Escuela ______________________________

FIGURE 19

Evaluación hecha por los padres
"Spanish Version"

1. ¿Les dijo su niño que (él, ella) trabajaba con materiales educacionales de carrera? __________ Si lo hizo, ¿qué les dijo?

2. ¿Observaron si su niño tenía que llevar a la escuela materiales de casa para proyectos en los que trabajaba con respecto a las actividades de educación de carrera?

   ¿Notaron cambios en cuanto a los artículos que su niño había de llevar de casa? _________ Más cosas? _________ Memos cosas? ___________

3. ¿En los últimos dos meses dirían Uds. que su niño: (Ponga un círculo alrededor de su elección.)

   Hablaba (menos más igual) acerca de la escuela.

   Gozaba de la escuela (menos más igual).

   Trabajaba (más menos igual) en sus deberes escolares.)

4. ¿En los dos últimos meses ha cambiado su niño en alguna otra manera?

5. ¿Les gustaría que la educación de carrera siguiera siendo parte del programa escolar de su niño? (Marque uno.) Sí No

Haga que su niño devuelva este blanco a su maestro.

FIGURE 20

Form #3
Site ____________________
School ____________________

# CAREER EDUCATION INFORMATION INVENTORY

**Name** __________________________________________________

Grade level which you are currently teaching _______________

Directions: Read each statement carefully and decide how you feel about it. You are offered five possible answers to each statement. The "undecided" answer should be circled only when you have no opinion. Please read each statement and circle:

SA: if you strongly agree with the statement
A: if on the whole you would tend to agree
U: if you are undecided
D: if on the whole you would tend to disagree
SD: if you strongly disagree with the statement

This is your individual opinion. Do not consult others regarding the questions.

1. The focus of the academic disciplines should be related to the career plans of each student. SA A U D SD

2. Most school curricula should be reoriented to place emphasis on career education. SA A U D SD

3. Career information relative to what workers do, where they work, who they work with, what they wear to work, etc. should be presented in elementary school career education programs. SA A U D SD

4. Career education for girls should center on secretarial skills, nursing, and teaching. SA A U D SD

5. Career education should be integrated into the regular curriculum. SA A U D SD

6. Teaching decision making skills should not be done in elementary school career education programs since most career-related decisions are not made during the kindergarten through sixth grade years. SA A U D SD

7. Career education should be concerned with developing a positive self-image for each student. SA A U D SD

8. The world of work should be the organizing center for the curriculum in the elementary school. SA A U D SD

9. Learning how to cope with work-related situations should be part of an elementary school career education program. SA A U D SD

10. The type of lifestyle one chooses to lead should not be dealt with in elementary school career education programs. SA A U D SD

11. The choice of an occupation or profession is one of the most important decisions a person makes in his lifetime. SA A U D SD

12. Students presently have sufficient orientation to the possibilities in the world of work to make sound career decisions. SA A U D SD

13. A career education program should involve real life experiences. SA A U D SD

14. Career education should be only for those students who are not able to succeed in an academic program. SA A U D SD

15. Career education should help students develop positive attitudes toward work. SA A U D SD

16. The educational program should provide students with experiences which show the relationship between subject matter taught in school and its use in the world of work. SA A U D SD

17. "Hands on" experiences are essential to a good career education program. SA A U D SD

18. The primary conveyor of career information should be the teacher. SA A U D SD

Form #5 5
Interview Number ____________
Name of Child ____________
Level ____________
Teacher ____________
Site ____________
School ____________

FIGURE 21

INTERVIEW GUIDE FOR STUDENTS

1. When we say that a person has a "job," what does this mean to you? (Let student elaborate until he can articulate what a job is. For older students, the interviewer should continue the conversation until the interviewee understands that a series of jobs frequently make up a career.)

2. When I say "go," please name as many jobs (or occupations) as you can. (Interviewer allows the child two minutes to name occupations or jobs.)

3. If you decided you wanted to find out something about a (Interviewer names one of the occupations listed by the child), how would you go about finding out what a ____________ does? What would you do?

4. Do you think you could learn to be a ____________ ? (Interviewer--stay with same occupation) Why or Why Not?

5. Why do people work?

6. If I gave you $1 right now, what would you do with it?

   Do you think your friends would use it the same way you did?

7. Do you know what it means to get fired? (Discuss until student understands term.)

   Why do you think people sometimes get fired?

8. Who do you think should be a nurse? Man? Woman? Both? (Interviewer--circle one.) Why?

9. Who do you think should be an airplane pilot? Man? Woman? Both? (Interviewer--circle one.) Why?

10. Who do you think should be a teacher? Man? Woman? Both? (Interviewer--circle one.) Why?

Summary. Table 1 shows a summary of the data gathering techniques which were used to gain information on (1) the content and construct validity of ETC materials, (2) administrative feasibility, and (3) student gains.

TABLE 1

DATA GATHERING TECHNIQUES SUMMARY

| COMPONENTS | DESCRIPTIVE | INFERENTIAL |
|---|---|---|
| Construct and Content Validity | | |
| Submission to Validation Task Force to review through use of instrument (Form 9)* | | X |
| Submission to field testing teachers to test and review through use of instrument (Form 10) | | X |
| Administrative Feasibility and Product Usability | | |
| Structured interviews with: | | |
| Students (Form 5) | X | |
| Supportive staff (Form 6) | X | |
| Teachers (Form 7) | X | |
| Observations made by project staff and third-party evaluators | X | |
| Questionnaires completed by parents (Form 4) | X | |
| Pretest and posttest administration of an instrument to measure teacher attitudes toward career education (Form 3) | | X |
| Student Learning Gain | | |
| Structured interviews with students (Form 5.5) | | X |
| Teacher judgments and teacher-made measures of attainment of objectives | X | |

---

*References to forms are to the evaluation instruments listed in Figure 22.

FIGURE 22

SUMMARY OF FIELD TESTING DATA GATHERING INSTRUMENTS

| Form # | Form Title | Administered To | Administration Schedule |
|---|---|---|---|
| 1 | Teacher Data Sheet | Teachers | Administered and collected prior to explanation of field testing activities |
| 2 | Infusion Strategy Questionnaire | Teachers | Completed in writing by teacher following completion of each infusion strategy |
| 3 | Career Education Information Inventory | Teachers | Pretest administered prior to explanation of field testing activities; posttest administered after field testing has been completed |
| 4 | Evaluation by Parents | Parents | Administered during last two weeks of field testing |
| 5 | Interview Guide for Students | Students | Administered after field testing has been completed |
| 5.5 | Interview Guide for Students (Waukegan site only) | Students | Pretest and posttest administration |
| 6 | Interview Guide for Supportive Staff | Supportive Staff | Administered during last two weeks of field testing |
| 7 | Interview Guide for Teachers | Teachers | Administered upon completion of testing |
| 8 | Field Testing Site Data | Administrators<br>Chamber of Commerce | Collected during testing period |
| 9 | Criteria for Evaluation of Major Concepts and Subconcepts | Validation Task Force | Used after staff has identified career development concepts |
| 10 | Evaluation Instrument for Career Dimension Frameworks and Infusion Strategies | Validation Task Force | Used after first draft of materials has been completed |

## Hypotheses of the Study

Certain aspects of the evaluation design required that some of the data should be subjected to statistical analysis. Specific hypotheses which were listed included the following:

$H_1$ There is no significant difference in beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory by the total group of teachers who used ETC materials and the control group.

$H_2$ There is no significant difference in teacher beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between each of the six field testing schools or between each of the six field testing schools and the control group.

$H_3$ There is no significant difference in beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between teachers in each of the four districts that used ETC materials.

$H_4$ There is no significant difference in teacher beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between field testing schools where no career education inservice training had been given prior to involvement with the ETC Project (Schools A & B) and field testing schools where from 30-40 clock hours of inservice training in career education had been given prior to involvement with the ETC Project (Schools D, E, and F).

$H_5$ There is no significant difference in teacher beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between field testing schools where no career education inservice training had been given prior to involvement with the ETC Project (Schools A and B) and the control group.

$H_6$ There is no significant difference in teacher beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between field testing schools where from 30-40 (Schools D, E, and F) clock hours of inservice training in career education had been given prior to involvement with the ETC Project and the control group.

The following hypotheses will be tested by comparing schools at the prime testing site (Schools A and B) and by comparing each of the prime site schools and the control group on pretest and posttest data.

Pretest and posttest data for School A and pretest and posttest data for School B will also be compared.

$H_7$ There is no significant difference in the number of jobs (classified by USOE cluster) named by K-6 students who used ETC materials and the control group as measured by pretest and posttest interviews.

$H_8$ There is no significant difference in the total number of jobs named by K-6 students who used ETC materials and the control group as measured by pretest and posttest interviews.

$H_9$ There is no significant difference in the mean number of different responses given to the question, "If you decided you wanted to find out something about a (interviewer names one of the occupations previously listed by the child), how would you go about finding out what a _______ does?" by students who used ETC materials and the control group as measured by pretest and posttest interviews.

$H_{10}$ There is no significant difference in responses given to the question, "Do you think you could learn to be a _______?" by students who used ETC materials and the control group as measured by pretest and posttest interviews.

$H_{11}$ There is no significant difference in total number of different reasons given in response to the question, "Why do people work?" by students who used ETC materials and the control group as measured by pretest and posttest interviews.

$H_{12}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman? Both?" between K-6 female and male students who used ETC materials as measured by pretest and posttest interviews.

$H_{13}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman? Both?" between K-6 female and male control group students as measured by pretest and posttest interviews.

$H_{14}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman? Both?" between K-6 female students who used ETC materials and female control group students as measured by pretest and posttest interviews.

$H_{15}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman? Both?" between K-6 male students who used ETC materials and male control group students as measured by pretest and posttest interviews.

$H_{16}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman?

Both?" between the total N of students who used ETC materials and the total N of control group students as measured by pretest and posttest interviews.

$H_{17}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between K-6 female and male students who used ETC materials as measured by pretest and posttest interviews.

$H_{18}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between K-6 female and male control group students as measured by pretest and posttest interviews.

$H_{19}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between K-6 female students who used ETC materials and female control group students as measured by pretest and posttest interviews.

$H_{20}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between K-6 male students who used ETC materials and male control group students as measured by pretest and posttest interviews.

$H_{21}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between the total N of students who used ETC materials and the total N of control group students as measured by pretest and posttest interviews.

$H_{22}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between K-6 female and male students who used ETC materials as measured by pretest and posttest interviews.

$H_{23}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between K-6 female and male control group students as measured by pretest and posttest interviews.

$H_{24}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between K-6 female students who used ETC materials and female control group students as measured by pretest and posttest interviews.

$H_{25}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between K-6 male students who used ETC materials and male control group students as measured by pretest and posttest interviews.

$H_{26}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between the total N of students who used ETC materials and the total N of control group students as measured by pretest and posttest interviews.

Third-Party Evaluation Procedures

As soon as the project began, a search was conducted for a third-party evaluator who would be responsible for monitoring project activities. The following procedures were used:

1. A list of 75 potential evaluation subcontractors was secured from the Illinois Division of Vocational and Technical Education.
2. An evaluation RFP was prepared, approved by the project monitor and sent to the 75 potential bidders (see Figure 23).
3. Six bids were received.
4. A team of three reviewers was selected to evaluate the six proposals.
5. The team of reviewers used the evaluation form shown in Figure 23 to evaluate the proposals.
6. A rank order of the top three proposals was submitted to the project director.
7. The project director, working in conjunction with appropriate university offices, offered the evaluation subcontract to the bidder who was ranked #1 by the review panel.
8. The #1 ranked bidder, Barnes and Dunham, accepted the offer.

Procedures used by the third-party evaluators included the following:

1. An on-site assessment of the project was conducted by Dr. Dan Dunham and Dr. Robert Barnes on December 15 and 16, 1972, at the ETC Project headquarters. The purpose of this visit was to:
    a. Conduct a preliminary evaluation planning session with project personnel.
    b. Determine the scope, nature, and dimensions of the project by reviewing pertinent project documents and conducting interviews with key project staff and university administrators.

c. Determine the validity, reasonableness and measurability of project goals and objectives, and the current status of project progress and accomplishments.

d. Initiate action on the development of a formative evaluation design based upon the dimensions, goals and objectives of the project to include format, basic methodology, development of appropriate instrumentation, and a time sequence of evaluation activities.

2. A second on-site assessment of the ETC Project was conducted by Dr. Robert Barnes, Dr. Richard Edsall, Dr. Jon Glau, and Dr. Glen Rask on August 27 and 28, 1973, at the ETC Project headquarters. The purposes of this second visit were to:

   a. Conduct a follow-up evaluation of the progress of the project.

   b. Review project goals and objectives and recommend any necessary revisions to maximize overall effectiveness of the project.

   c. Review data collection instruments developed by project staff and advise on changes to improve them for use in field validation of project-developed materials.

   d. Develop and finalize with project staff plans for field validation of project-developed materials.

3. The third on-site assessment was conducted by Dr. Dan Dunham and Dr. Robert Barnes on February 14 and 15, 1974, at the Waukegan, Illinois, field testing site. The purposes of the third on-site assessment were to:

   a. Determine the current status of the project in general.

   b. Gain a view of the on-site field testing programs at the primary field testing site at Waukegan, Illinois.

   c. Clarify the roles and function of third-party evaluators in the additional three field testing sites in Oregon, Colorado, and Kansas being conducted as a part of the third-party evaluation.

   d. Determine the specific requirements of the fourth and final on-site project evaluation tentatively scheduled for May 6 and 7, 1974.

   This evaluation was addressed to capturing information on ten major issues including the following:

   a. A general review of the progress and current status of the project

b. Project management and administration

c. The current status of the field testing project at the Waukegan site

d. A review of materials publication status

e. An assessment of project impact through related staff activities

f. Use of advisory committees and councils by the project

g. Status of reports to the U. S. Office of Education

h. Needs for further testing refinement and follow-up of project outcomes

i. Design of strategies to refine the conduct of field testing at the Oregon, Colorado, and Kansas field testing sites

j. Design of components of the final on-site evaluation visit by the third-party evaluators

The Appendices contain evaluation summaries which were prepared by the evaluation subcontractor.

FIGURE 23

## REQUEST FOR PROPOSAL

| | |
|---|---|
| Issued by: | Enrichment of Teacher and Counselor Competencies in Career Education Project<br>Center for Educational Studies<br>School of Education<br>Eastern Illinois University<br>Charleston, Illinois 61920 |
| Issued to: | Research and Educational Agencies--public and private, and other agencies or parties interested in developing proposals. |
| Activity Requested: | Evaluation subcontract for elementary school (K-6) career education curriculum development project. |
| Funds Available: | $7,500 |
| Time Frame: | November 15, 1972 - June 1, 1974 |
| Activity Goal: | The evaluation contractor will be required to use an evaluation design that provides for both formative evaluation (collection of appropriate evidence during the construction of a new curriculum in such a way that revisions of the curriculum can be made on evidence) and summative evaluation (collection of data at end of program on effectiveness of curriculums). |
| Proposal Format: | Should be in format described on attached "General Specifications for Proposals" sheet. |
| Proposal Reviewers: | A panel of three "outside" reviewers chosen by Eastern Illinois University will recommend the subcontract on the basis of technical quality and price. |
| If Additional Information is Required, Please Contact: | Dr. Marla Peterson, Director<br>Enrichment of Teacher and Counselor Competencies in Career Education Project<br>Room 125, Buzzard Laboratory School<br>Eastern Illinois University<br>Charleston, Illinois 61920<br><br>Telephone: 217 581-5816 |
| Deadline for Proposal Submission: | All proposals shall be actually received by offeree no later than 2:00 p.m. CST, October 30, 1972. |
| Submit 10 Copies of Proposal To: | Mr. John Checkley<br>Business Office<br>212 Old Main<br>Eastern Illinois University<br>Charleston, Illinois 61920 |

## RFP for Evaluation of
## ENRICHMENT OF TEACHER AND COUNSELOR COMPETENCIES IN CAREER EDUCATION PROJECT

Introduction

In June, 1972, Eastern Illinois University was awarded a contract by the Contracts and Grants Division, Curriculum Center for Occupational and Adult Education, Adult, Vocational and Technical Education Branch, Department of Health, Education and Welfare. This contract was for a 24-month project to:

> DEVELOP, EVALUATE, AND DISSEMINATE CAREER EDUCATION CURRICULUM GUIDES that are applicable to any school with grade levels functionally equivalent to K-6 and which result in the integration of positive values and attitudes toward work, self-awareness, development of decision-making skills, and awareness of occupational opportunities and career lines within major occupational fields;
>
> DEVELOP, IMPLEMENT, EVALUATE, AND DISSEMINATE SAMPLE TEACHING LEARNING MODULES (or units) for the K-6 career education curriculum guides achieved by fusing and/or coordinating academic and occupational concepts and utilizing multi-media instructional tools;
>
> DEVELOP, EVALUATE, AND DISSEMINATE A DESIGN OF A K-6 CAREER EDUCATION INSTRUCTIONAL SYSTEM which is adaptable to any elementary instructional program and which may serve as an alternative to present career education instructional systems.

The contract received by Eastern Illinois University contained a provision which would allow for the hiring of an evaluation subcontractor by Eastern Illinois University. This request, then, is to secure the services

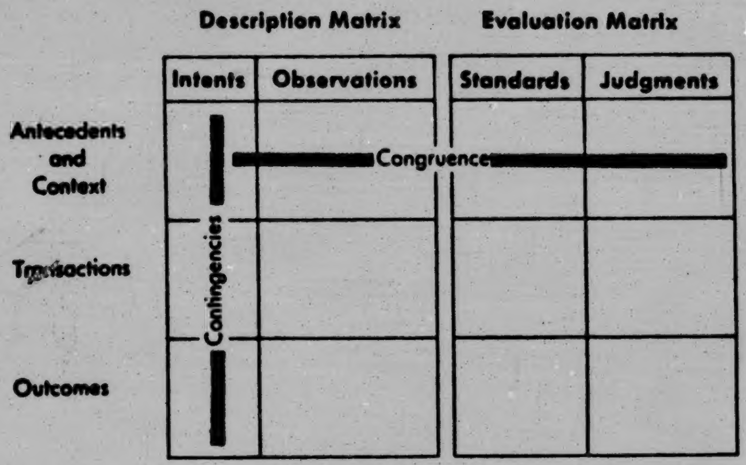
FIGURE 23 (CONT'D.)

of an evaluation team to conduct both formative and summative evaluations of project activities.

Evaluation Specifications

The evaluation subcontractor will be required to use an evaluation design that provides for both formative evaluation (collection of appropriate evidence during the construction of a new curriculum in such a way that revisions of the curriculum can be made on evidence) and summative evaluation (collection of data at end of program on effectiveness of curriculums). The evaluation subcontractor may follow any model of his choosing for the evaluation design. However, his model should include the component parts that are included in the model which is shown.
This model was prepared by Sjogren and is a modification of a model prepared by Stake.[1]

MACRO EVALUATION MODEL


Description Matrix
Evaluation Matrix
Intents
Observations
Standards
Judgments
Antecedents and Context
Transactions
Outcomes
Congruence
Contingencies

**Congruence applies to all cells in a particular row.**
**Contingency applies to all cells in a particular column.**

---

[1] Stake, Robert E. "The Countenance of Educational Evaluation," Teachers College Record, Vol. 68, pp. 523-40, 1967.

FIGURE 23 (CONT'D.)

The evaluation subcontractor may wish to think of evaluation in the macro and in the micro sense:

> The management system design is a macro design in that it is suited to monitoring the overall program. The macro design is essentially descriptive rather than comparative. Within such an evaluation design, however, there may be several specific or micro evaluations. Some of the micro evaluations might also be descriptive, such as an evaluation of a specific activity in a program while other micro evaluations might be carried out with strict adherence to experimental methodology.[2]

One model for conducting macro and micro evaluations of the Enrichment of Teacher and Counselor Competencies in Career Education Project is shown on p. 4. However, potential subcontractors should feel free to vary this model.

The evaluation plan should take into account the overall design of the Enrichment of Teacher and Counselor Competencies in Career Education Project. In order to enhance brevity and conciseness, the procedures which will be used for the Enrichment of Teacher and Counselor Competencies in Career Education Project are shown on the accompanying Summary Network. Prospective evaluation subcontractors will want to pay particular attention to Items 6, 7, 8, 9, 34, 47, 94, 123, 126, and 131. It should be noted that the time schedule for Items 6, 7, 8, and 9 has been changed. These items are now scheduled for completion by October 30.

Further elaboration is needed on Items 126 and 132:

> Item 126: The evaluation subcontractor will provide Eastern Illinois University with 50 copies of the final evaluation report.

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[2] Sjogren, Douglas. "Evaluation of Vocational Teacher Education." Changing the Role of Vocational Teacher Education. Rupert N. Evans and David R. Terry, Editors; Bloomington, Illinois: McKnight & McKnight Publishing Company, p. 183, 1971.

FIGURE 23 (CONT'D.)

MACRO AND MICRO EVALUATION PLAN

for

ENRICHMENT OF TEACHER AND COUNSELOR COMPETENCIES IN CAREER EDUCATION PROJECT

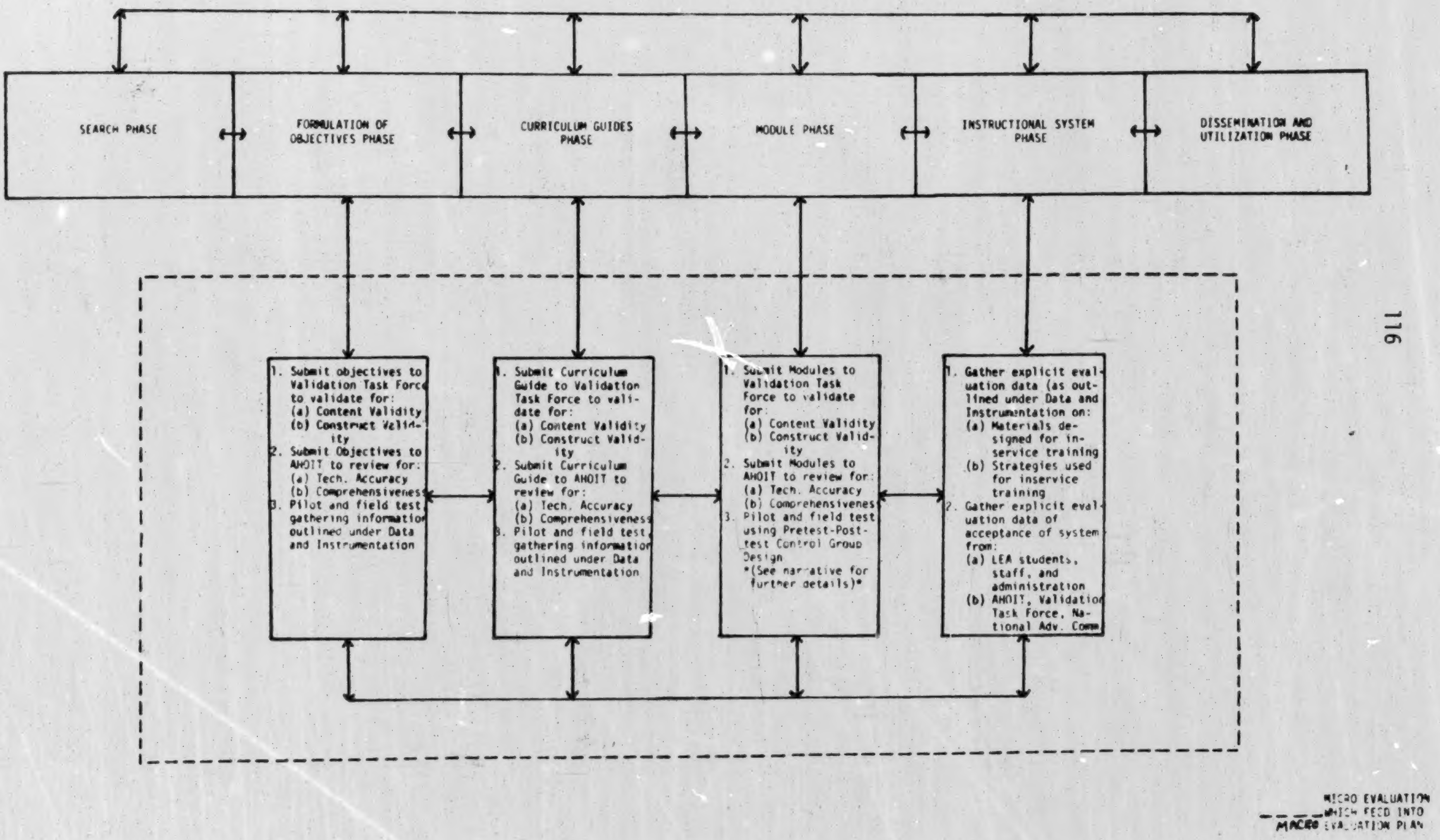
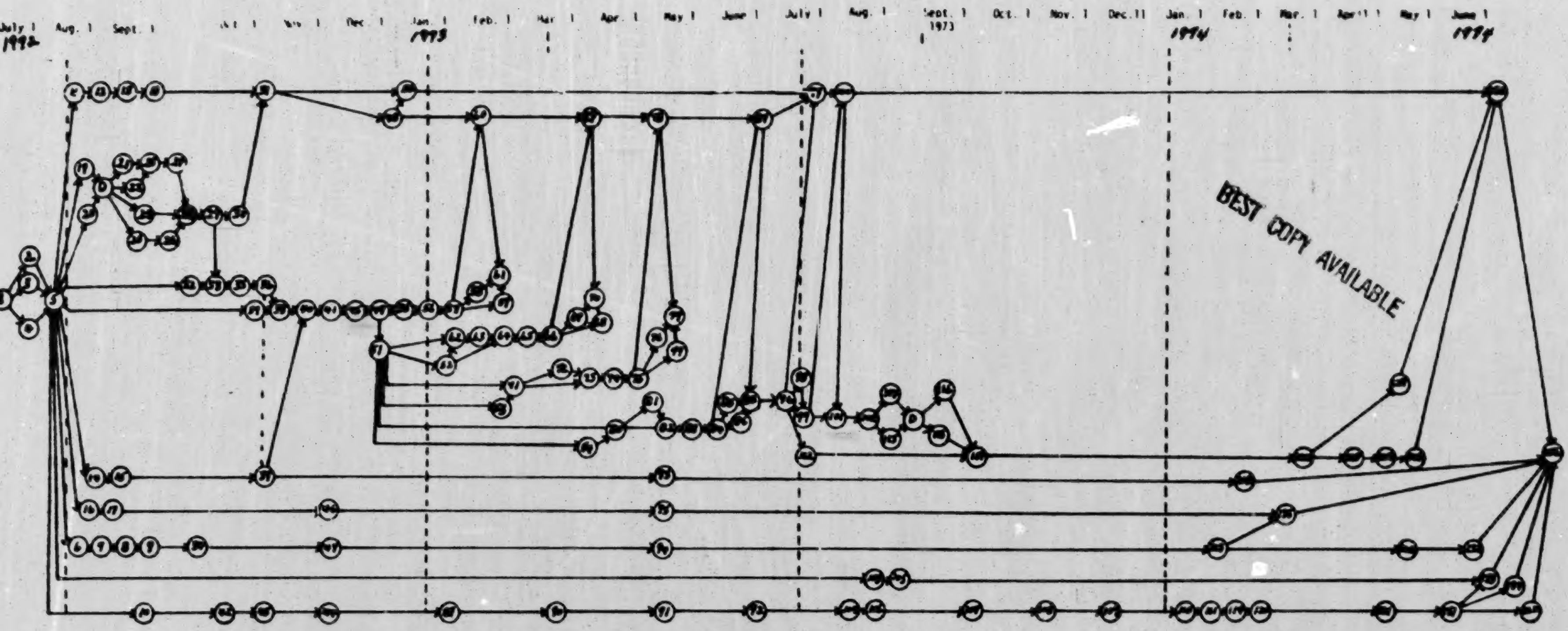

SEARCH PHASE
FORMULATION OF OBJECTIVES PHASE
CURRICULUM GUIDES PHASE
MODULE PHASE
INSTRUCTIONAL SYSTEM PHASE
DISSEMINATION AND UTILIZATION PHASE
1. Submit objectives to Validation Task Force to validate for: (a) Content Validity (b) Construct Validity 2. Submit Objectives to AHOIT to review for: (a) Tech. Accuracy (b) Comprehensiveness 3. Pilot and field test gathering information outlined under Data and Instrumentation
1. Submit Curriculum Guide to Validation Task Force to validate for: (a) Content Validity (b) Construct Validity 2. Submit Curriculum Guide to AHOIT to review for: (a) Tech. Accuracy (b) Comprehensiveness 3. Pilot and field test, gathering information outlined under Data and Instrumentation
1. Submit Modules to Validation Task Force to validate for: (a) Content Validity (b) Construct Validity 2. Submit Modules to AHOIT to review for: (a) Tech. Accuracy (b) Comprehensiveness 3. Pilot and field test using Pretest-Posttest Control Group Design *(See narrative for further details)*
1. Gather explicit evaluation data (as outlined under Data and Instrumentation on: (a) Materials designed for inservice training (b) Strategies used for inservice training 2. Gather explicit evaluation data of acceptance of system from: (a) LEA students, staff, and administration (b) AHOIT, Validation Task Force, National Adv. Comm
MICRO EVALUATION WHICH FEED INTO MACRO EVALUATION PLAN

FIGURE 23 (CONT'D.)

Item 131: The Enrichment of Teacher and Counselor Competencies in Career Education Proposal calls for the development of an evaluation instrument that can be used for providing feedback on the dissemination and adoption process which will take place after the project has run full cycle. This instrument is to be submitted to the U.S.O.E. and is to be developed by the evaluation subcontractor.

FIGURE 23 (CONT'D.)



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○ = Dummy Event

Summary Network

Enrichment of Teacher and Counselor Competencies in Career Education Project

1. Hire project director
2. Hire Search team personnel
3. Hire 4 project associates
4. Hire clerical personnel
5. Project Official Start
⑥ Prepare RFP for evaluation subcontractor
⑦ Issue evaluation RFP's
⑧ Select evaluation subcontractor
⑨ Meet with eval. subcontractor to outline procedures for develop. evaluation plan
10. Send out newsletter
11. Prepare specif. for printing and dissemination of project materials
12. Issue specifications to publisher
13. Select publisher
14. Form Ad Hoc Occup. Inform. Team (AHOIT)
15. Meet with AHOIT to orient team to their responsibilities
16. Form National Advisory Committee
17. Meet with National Advisory Committee
18. Meet with publishers to discuss format for literature search
19. Develop tentative search format
20. Develop criteria for determining what existing materials can be used for K-6
21. Visit Model I headquarters at Ohio State to review materials gathered by Model I search team
22. Write to PCU dir. in each state to secure description of career devel. program
23. Review additional materials that were not searched by Model I
24. Acquire materials from commercial publ.
25. Visit selected career devel. proj. sites
26. Visit Pritch[illegible] Integrated Day School (DELETED)
30. Receive BAVTE approval of literature search from BAVTE
31. Submit approved lit. search to publisher
32. Assemble Career Dev. Task Force (CDTF)
33. Submit "search" to CDTF
㉞ Meet with evaluation subcontractor--Evaluation Report #1
35. Determine behavioral objectives format
36. Write career ed. behavioral obj. for K-6
37. Form Validation Team
38. Submit objectives to Validation Team
39. Sub. obj. to selected members of AHOIT
40. Prepare 250 copies of career education behavioral objectives
41. Submit 10 copies of behavioral objectives to BAVTE
42. Send out newsletter #2
43. Submit article to professional journal
44. Send out newsletter #3
45. Receive BAVTE reaction to behav. obj.
46. Meet with National Advisory Committee to review 1st 6 mo. progress and receive suggestions for Subject Area Task Forces
㊼ Meet with evaluation subcontractor for Evaluation Report #2--Evaluation of Behavioral Objectives Phase
48. Form Soft-Ware Mini Task Force
49. Form Subject Area Task Force #1--Language Arts (SATF #1)
50. Meet with publisher to determine curriculum guide format
51. Select Math, Science & Social Studies teacher educator for SATF's 2,3, and 4
52. Have Math teacher educator assemble Math concepts
55. Select career deve. behav. obj. which can best be met in Language Arts
56. Complete preliminary work on Lang. Arts
57. Submit Language Arts materials to L.A. teacher educator for refinement
58. Submit L.A. to Validation Task Force
59. Submit L.A. to AHOIT
60. Submit L.A. to Soft-Ware Task Force
61. Revise L.A. materials
62. Form Subject Area Task Force #2--Math (SATF #2)
63. Select career development concepts which can best be met in Mathematics
64. Use subj. area concepts completed by Math teacher educator to refocus Math curric
65. Complete preliminary work on Math mat.
66. Submit refocused curriculum to Math teacher educator for refinement
67. Submit Math to Validation Task Force
68. Submit Math to AHOIT
69. Submit Math to Soft-Ware Task Force
70. Revise Math materials
71. Form Subject Area Task Force #3--Science (SATF #3)
72. Select career development concepts which can best be met in Science
73. Use subject area concepts completed by Science teacher educator to refocus Science curriculum
74. Complete preliminary work on Science mat.
75. Submit refocused curriculum to Science teacher educator for refinement
76. Submit Science to Validation Task Force
77. Submit Science to AHOIT
78. Submit Science to Soft-Ware Task Force
82. Use subject area concepts completed by Social Studies teacher educator to refocus Social Studies curriculum
83. Complete pre. work on Soc. Stud. material
84. Submit refocused curric. to Social Stud. teacher educator for refinement
85. Submit Soc. Studies to Val. Task Force
86. Submit Social Studies to AHOIT
87. Sub. Soc. Stud. to Soft-Ware Task Force
88. Revise Social Studies materials
89. Send out newsletter #4
90. Send out newsletter #5
91. Submit article to professional journal
92. Send out newsletter #6
93. Meet with AHOIT (Meeting #2--Reactions to progress on curriculum guides)
(94) Meet with evaluation subcontractor for Report #3 on SATF phase of project
95. Meet with National Advisory Committee to give project midway report & obtain sug. for testing guides & modules
96. Prepare 60 copies of subject area curriculum guides
97. Meet with publisher to arrange for editing & printing of K-2, 3-4, and 5-6 curriculum guides
98. Test Life Center Module (LCM) in order to obtain better module format
99. Form LCM development team
100. Meet with publisher to discuss LCM format
101. Finalize LCM format
102. Prepare 3 LCM's--including all visuals
103. Complete instructional system design
104. Prepare slide-tape presentation for loan
110. Appear on AVERA program
111. Send out newsletter #9
112. Select 4 school systems to field test curriculum guides & begin testing
113. Complete 3 LCM's
114. Pilot test LCM's in Laboratory School
115. Submit LCM's to Validation Task Force
116. Submit LCM's to AHOIT
117. Field test LCM's in 4 schools
118. Meet with AHOIT (Meet. #3--Review of LCM's
119. Submit article to professional journal
120. Send out newsletter #10
121. Send out newsletter #11
122. Send out newsletter #12
(123) Meet with evaluation subcontractor on data relative to LCM's & curriculum guides
124. Revise curriculum guides
125. Revise LCM's
(126) Receive final evaluation data
127. Prepare 60 copies of LCM's
128. Submit 10 copies of LCM's to BAVTE
129. Submit 10 copies of curriculum guide to BAVTE
130. Meet with publisher to finalize plans for editing, publishing, & disseminating project materials
(131.) Design evaluation instrument to provide feedback on adoption process
(132) Submit 250 copies of evaluation instruments to BAVTE
133. Have available, 500 copies of Instructional System Design & Dissem. Model
134. Submit 10 copies of Instruction System Design and Dissem. Model to BAVTE

**PLEASE REVIEW THE ATTACHED PROPOSAL MAKING COMMENTS**
**AND RETURN THIS FORM TO:** ______________________

**RFP NO.** ____________

**LOG NO.** ____________

FIGURE 24

# PROPOSAL EVALUATION FORM

BEST COPY AVAILABLE

☐ PROFESSIONAL AND CURRICULUM DEVELOPMENT UNIT
☐ RESEARCH AND DEVELOPMENT UNIT
☐ SPECIAL PROGRAMS UNIT

TITLE: ______________________
______________________
SUBMITTED BY: ______________________
INSTITUTION, SCHOOL OR AGENCY: ______________________

*Instructions:*
*Below are listed a series of questions designed to help you in reviewing the attached proposal. Be sure to read the RFP carefully that responds to this proposal before rating the proposal. You will note that there are seven major questions to be answered and all questions should be rated in the appropriate space below. Using the numbers 5, 4, 3, 2, 1, check the box to the right of each statement that you feel best corresponds to the question. This form has been designed to take a minimum of time. All reviews will be held in the strictest of confidence.*

| | 5 | 4 | 3 | 2 | 1 | |
|---|---|---|---|---|---|---|
| **QUESTION** | **STRONGLY AGREE** | **AGREE** | **UNCERTAIN** | **DISAGREE** | **STRONGLY DISAGREE** | **COMMENTS** |
| This proposal meets the needs as specified in the RFP. | | | | | | |
| The proposed objectives stated in this proposal are clear and correlate with the intent and objectives of the RFP. | | | | | | |
| The proposed procedures are complete and suitable for the activity. (Your suggested changes are desired.) | | | | | | |
| The investigator proposed suitable means for analyzing the data to arrive at definite conclusions. (leave blank if not applicable) | | | | | | |
| The proposed staff are capable of doing the study. There is evidence of preparation in the field and in the specific areas of the proposal. | | | | | | |

(OVER)

| QUESTION | 5<br>STRONGLY AGREE | 4<br>AGREE | 3<br>UNCERTAIN | 2<br>DISAGREE | 1<br>STRONGLY DISAGREE | COMMENTS |
|---|---|---|---|---|---|---|
| The proposal presents satisfactory strategies for reaching the greatest number of learners within the proposed target group and geographic area with funds available. (leave blank if not applicable) | | | | | | |
| Is the proposed evaluation process stated in the proposal appropriate and adequate for the activity? | | | | | | |

**ADDITIONAL COMMENTS OR OBSERVATIONS**

SIGNATURE OF REVIEWER

DATE ____________

## Field Testing Sites

Selection of field testing sites. Six schools which were located in four different geographic settings field tested the ETC materials. It should be noted that the project contract called for field testing at one site. However, through the excellent cooperation of the third-party evaluators, three additional sites were selected to test materials as part of the third-party evaluation plan. The site which was part of the project contract was selected by the ETC Project staff. The three sites which were part of the third-party evaluation plan were selected by the third-party evaluators. Close communication regarding selection of the four sites was maintained by the ETC staff and the third-party evaluators so that sites could be selected which met the following criteria:

1. At least one site should have schools in which there are ethnic mixes and should also have schools in which there is a lack of ethnic mix.
2. At least one site should be located in or near a large metropolitan area.
3. At least one site should be located in a rural area.
4. At least one site should have had no inservice training in career education.
5. At least one site should have had at least 30 clock hours of inservice training in career education.
6. One site should be located in an area that is readily accessible to project staff.
7. Several sites should be located at sites remote from the project staff to test for transportability.
8. One site should have enough elementary schools so that two very diverse schools could be chosen for intensive comparisons.

Selection of the contractual site was made eight months after the start of the project and selection of the third-party evaluation sites was made twelve months after the start of the project.

Description of field testing sites. The term "site" as used in this report refers to the four geographic sites at which field testing took place. At several sites, more than one school participated in field testing of the materials so that a total of six schools were involved in the field testing process. Tables 1 and 2 provide data on the four sites and the six schools. In general, the six schools can be characterized as follows:

School A: School A is located in a midwestern suburb of a large metropolitan area. It has an ethnic mixture of approximately 50% black, 45% bilingual Spanish surnamed, and 5% Anglo (white). The student population is 357, average daily attendance is 312, and 120 students receive free lunches. The mean income is $5,000. Thus the school serves a lower income population. The per pupil cost is $1,050. The district budget allocation for K-6 career education is $5,000 total for the 17 elementary schools in the district. The school has no K-6 counselors. One audio-visual aide, one library aide, a nurse for three half days per week, one Title I reading specialist, a school psychologist who is on call, and a speech and hearing specialist for three half days per week are the supporting staff. The mean age of the 16 teachers who participated in the field testing is 37.4. There are 14 female teachers and two male teachers who have 11.7 mean years of teaching experience and who have been in their present position for 6.2 mean years. The teachers have held a mean of 1.9 positions other than teaching. The teachers have attended a total of 20 different universities with 10 possessing the bachelor's degree as the highest degree obtained and six possessing the master's degree as the highest degree obtained. Only one teacher has had a course in career education and only one teacher has had inservice in career education. Four teachers have had courses in guidance and counseling, one teacher has had a course in industrial arts, and no teachers have had course work in vocational education.

School B: School B is located in a midwestern suburb of a large metropolitan area (in the same school district as School A). It has little ethnic mix with a predominately Anglo (white) population. The student population is 379, average daily attendance is 365, and eight students receive free lunches. The mean income is $12,000-$15,000. Thus the school serves a middle income population. The per pupil cost is $1,050. The district budget allocation for K-6 career education is $5,000 total for the 17 elementary schools in the district. The school has no K-6 counselors. One audio-visual aide, one library aide, a nurse for three half days per week, one Title I reading specialist, a school psychologist who is on call, and a speech and hearing specialist for three half days per week are the supporting staff. The mean age of the 15 teachers who participated in the field testing is 39.8. There are 12 female teachers and three male teachers who have 10.8 mean years of teaching experience and who have been in their present position for 8.3 mean years. The teachers have held a mean of 1.7 positions other than teaching. The teachers have attended a total of 15 different universities with 11 possessing the bachelor's degree as the highest degree obtained and four possessing the master's degree as the highest degree obtained. Only two teachers have had a course in career education and only two teachers have had inservice in career education. Six teachers have had courses in guidance and counseling, three teachers have had courses in industrial arts,and no teachers have had course work in vocational education.

School C: School C is located in a midwestern rural area. It has a predominately Anglo (white) population. The student population is 136, average daily attendance is 137, and 17 students receive free lunches. The mean income is $9,500 and local school personnel classify the school as serving a middle income population. The per pupil cost is $914. The district budget allocation for K-6 career education is $400 for the four elementary schools in the district. The school has no K-6 counselor and no additional supportive personnel. The mean age of the six teachers who participated in the field testing is 34.8. There are four female and two male teachers who have 10.8 mean years of teaching experience and who have been in their present position for 5.5 mean years. The teachers have held a mean of 2.5 positions other than teaching. The teachers have attended a total of 12 different universities with five possessing the bachelor's degree as the highest degree obtained and six possessing the master's degree as the highest degree obtained. Only one teacher has had a course in career education and five teachers have had inservice in career education. Two teachers have had courses in guidance and counseling, two teachers have had a course in industrial arts,and two teachers have had course work in vocational education.

School D: School D is located in a western United States urban area. It has an ethnic mixture of 71% Spanish surnamed, 25% Anglo (white), and 4% black. The student population is 359, average daily attendance is 337.5, and 119 students receive free lunches. The mean income is $6,706 and local school personnel classify the school as serving a lower income population. The per pupil cost is $896. The district budget allocation for K-6 career education is $5,000 for the 30 elementary schools in the district. The school has no K-6 counselors. One librarian, .5 nurse, a school psychologist who is on call, and two paraprofessionals are the supporting staff. The mean age of the 11 teachers who participated in the field testing is 41.5. There are 10 female and one male teachers who have 12.9 mean years of teaching experience and who have been in their present position for 7.1 mean years. The teachers have held a mean of 3.0 positions other than teaching. The teachers have attended a total of 12 different universities with four possessing the bachelor's degree as the highest degree obtained and seven possessing the master's degree as the highest degree obtained. Eight teachers had at least one course in career education and nine teachers had inservice education in career education. The inservice education consisted of approximately 30 clock hours per teacher. Four teachers have had course work in guidance and counseling, two teachers have had a course in industrial arts, and one teacher has had a course in vocational education.

School E: School E is located in the far northwestern section of the United States in an urban area of about 30,000. It has a predominately Anglo (white) population. The student population is 408, average daily attendance is 371, and 191 students receive free lunches. The mean income is approximately $5,000. Thus the school serves a low income population. The per pupil cost is $906. The district provides released time for career education planning and provides money for substitute time and administrative services related to career education. The school district has served as a Part D career education exemplary site with $37,230 spent this past year for career education. The school has .6 K-6 counselors. One librarian, .6 nurse's aide, 1.5 reading specialists, a school psychologist who is on call, .6 speech and hearing specialist, and three paraprofessionals are the supporting staff. The mean age of the 14 teachers who participated in the field testing is 34.3. There are 11 female and three male teachers who have 9.7 mean years of teaching experience and who have been in their present position for 5.8 years. The teachers have held a mean of 3.0 positions other than teaching. The teachers have attended a total of nine different universities with 11 possessing the bachelor's degree as the highest degree obtained and two possessing the master's degree as the highest degree obtained. Three teachers had at least one course in career education and 14 teachers had inservice education in career education. The inservice education consisted of approximately 36 clock hours per teacher. Seven teachers have had course work in guidance and counseling, three teachers have had a course in industrial arts, and three teachers have had a course in vocational education.

School F: School F is located in the far northwestern section of the United States in an urban area of about 30,000 (in the same school district as School E). It has a predominately Anglo (white) population. The student population is 280, average daily attendance is 266, and 141 students receive free lunches. The mean income is $9,383. Thus the school serves a middle income population. The district provides released time for career education planning and provides money for substitute time and administrative services related to career education. The school district has served as a Part D career education exemplary site with $37,230 spent this past year for career education. The school has .6

K-6 counselors. One librarian, .6 nurse's aide, 1.5 reading specialists, a school psychologist who is on call, .6 speech and hearing specialist and two paraprofessionals are the supporting staff. The mean age of the 11 teachers who participated in the field testing is 37.4. There are eight female and three male teachers who have 9.3 mean years of teaching experience and who have been in their present positions for 5.0 years. The teachers have held a mean of 3.1 positions other than teaching. The teachers have attended a total of eight different universities with six possessing the bachelor's degree as the highest degree obtained and five possessing the master's degree as the highest degree obtained. One teacher has had a course in career education and nine teachers have had inservice education in career education. The inservice education consisted of approximately 36 clock hours per teacher. Seven teachers have had course work in guidance and counseling, no teachers have had a course in industrial arts, and no teachers have had a course in vocational education.

## TABLE 2

## DEMOGRAPHIC DATA FOR FIELD TESTING SITES

| | DATA CATEGORY | SCHOOL A | SCHOOL B | SCHOOL C | SCHOOL D | SCHOOL E | SCHOOL F |
|---|---|---|---|---|---|---|---|
| 1. | Student population of entire district | 14,446 | 14,446 | 837 | 26,896 | 9,693 | 9,693 |
| 2. | Student population of each testing school | 357 | 379 | 137 | 359 | 408 | 280 |
| 3. | Number of teachers participating in field testing | 16 | 15 | 6 | 11 | 14 | 11 |
| 4. | Number of elementary schools in district | 17 | 17 | 4 | 30 | 14 | 14 |
| 5. | Mean income in geographic area served by school | $5,000 | $12,000-15,000 | $9,500 | $6,706 | $5,000(est.) | $9,383 |
| 6. | Socic-economic classification | Suburban--Lower Income | Suburban--Middle Income | Rural--Middle Income | Urban--Lower Income | Rural--Lower Income | Urban--Middle Incom |
| 7. | Per pupil cost | $1,050 | $1,050 | $914 | $896 | $906 | $906 |
| 8. | Average daily attendance at each testing school | 312 | 365 | 134 | 337.5 | 371 | 266 |
| 9. | Number of students receiving free lunches | 120 | 8 | 17 | 119 | 191 | 141 |
| 10. | District budget allocation for K-6 career education | $5,000 | $5,000 | $400 | $5,000 | ---* | ---* |
| 11. | Reimbursement received for K-6 career education by district | $2,500 | $2,500 | --- | --- | $37,230 | $37,230 |

---

*No figure provided but released time for career education planning and money for substitute time and administrative services is provided.

## TABLE 2 (CONT'D.)

## DEMOGRAPHIC DATA FOR FIELD TESTING SITES

| DATA CATEGORY | SCHOOL A | SCHOOL B | SCHOOL C | SCHOOL D | SCHOOL E | SCHOOL F |
|---|---|---|---|---|---|---|
| 12. Number of K-6 counselors | --- | --- | --- | --- | .6 | .6 |
| 13. Number of K-6 supportive personnel other than counselors: | | | | | | |
| Assistant principal | --- | --- | --- | --- | --- | --- |
| Audio-visual or media specialist | Aide only | Aide only | --- | --- | --- | --- |
| Librarian | 1 Aide | 1 Aide | --- | 1 | 1 | 1 |
| Nurse | 3 half days per week | 3 half days per week | --- | .5 | .6 Nurse's Aide | .6 Nurse's Aide |
| Reading specialist | 1 Title I | 1 Title I | --- | --- | 1.5 | 1.5 |
| School psychologist | On call | On call | --- | On call | On call | On call |
| Speech and hearing specialist | 3 half days per week | 3 half days per week | --- | --- | .6 | .6 |
| Teacher aide or other paraprofessionals | --- | --- | --- | 2 | 3 | 2 |

## TABLE 3

## TEACHER DATA FOR FIELD TESTING SITES

| DATA CATEGORY | SCHOOL A | SCHOOL B | SCHOOL C | SCHOOL D | SCHOOL E | SCHOOL F |
|---|---|---|---|---|---|---|
| 1. Mean age | 37.4 | 39.3 | 34.8 | 41.5 | 34.3 | 37.4 |
| 2. Female/male | 14/2 | 12/3 | 4/2 | 10/1 | 11/3 | 8/3 |
| 3. Mean years of teaching experience | 11.7 | 14.4 | 10.8 | 12.9 | 9.7 | 9.3 |
| 4. Mean years in present position | 6.2 | 8.3 | 5.5 | 7.1 | 5.8 | 5.0 |
| 5. Mean number of positions other than teaching | 1.9 | 1.7 | 2.5 | 3.0 | 3.0 | 3.1 |
| 6. Total number of different universities attended | 20 | 15 | 3 | 12 | 9 | 8 |
| 7. Number of teachers with bachelor's degree | 10 | 11 | 5 | 4 | 11 | 6 |
| 8. Number of teachers with master's degree | 6 | 4 | 1 | 7 | 2 | 5 |
| 9. Number of teachers who had at least one course in career education | 1 | 2 | 1 | 8 | 3 | 1 |
| 10. Number of teachers who had at least one course in guidance and counseling | 4 | 6 | 2 | 4 | 7 | 7 |
| 11. Number of teachers who had at least one course in industrial arts | 1 | 3 | 2 | 7 | 3 | --- |

## TABLE 3 (CONT'D.)

## TEACHER DATA FOR FIELD TESTING SITES

| DATA CATEGORY | SCHOOL A | SCHOOL B | SCHOOL C | SCHOOL D | SCHOOL E | SCHOOL F |
|---|---|---|---|---|---|---|
| 12. Number of teachers who had at least one course in vocational education | --- | --- | 2 | 1 | 3 | --- |
| 13. Number of teachers who had received inservice training in career education prior to involvement with ETC Project* | 1 | 2 | 5 | 9 | 14 | 9 |

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* Read narrative for further description of career education inservice training that had been received by field testing teachers prior to involvement with ETC Project.

Additional discussion of data in Tables 2 and 3. The range of per pupil cost is small ($896-$1,050).

Schools B and C have very few students who receive free lunches but Schools C and F are very close in mean income. It should be noted that School E was classified by local school officials as a lower income school and that 47% of the students received free lunches. However, School F which was located in the same school district as School E was classified by local school officials as a middle income school and that 50.3% of the students received free lunches. Total percentage of students receiving free lunches was almost the same in Schools A and D. In School A 33.6% received free lunches and in School D 33.4%.

Reimbursement for career education differences is substantial. Schools A and B are located in a school district which has 17 elementary schools and receives a total K-6 career education reimbursement of $2,500. Schools C and D are located in districts which receive no K-6 career education reimbursement. Schools E and F are located in a district which has 14 elementary schools and received $37,230 in K-6 career education reimbursement during this past year.

The average daily attendance at School C is very high. School C is located in a rural area. The absentee rate is highest at School A which is located in a midwestern suburb of a large metropolitan city.

Only two of the schools had K-6 counselors and in each of these two schools there was .6 elementary school counselor. In each case the student-counselor ratio is high.

School C had no supportive personnel other than teachers and the principal. All schools except for C and D had at least one reading specialist. All schools except C had the part-time services of a nurse or nurse's aide. All schools except C had a librarian or library aide. The school psychologist was on call in all schools except C. School C did not have the services of a school psychologist. All schools except C had the part-time services of a speech and hearing specialist. Schools D, E, and F had 2-3 paraprofessionals.

Schools C and D showed the greatest extreme in district size with School C located in a district that has four elementary schools and School D located in a district that has 30 elementary schools.

School C has the smallest faculty but has the largest proportion of male teachers. A total of 59 female and 14 male teachers field tested ETC materials.

Comparing the mean ages of teachers and years in present position suggests that few or none had many years outside teaching. Therefore, jobs in positions other than teaching were likely of short duration.

The proportion of teachers with master's degrees is substantially higher in School D.

Schools D, E, and F have had substantial inservice preparation in career education. When the amount of inservice received by teachers in Schools E and F is compared with the reimbursement for career education received by the district, it should be noted that inservice and reimbursement are both high when compared to the other four schools. Schools A and B are low in both inservice and career education reimbursement.

The mean years in present position ranged from 5.0 to 8.3. This suggests stability in faculty at all schools.

Ethnic background of field testing students. The data in Table 4 reveals that a total of 1,920 students field tested the ETC materials. Of this total, 193 were black students, 415 were Spanish speaking students, and 1,312 were Anglo (white) students.

TABLE 4

ETHNIC BACKGROUND OF FIELD TESTING STUDENTS

| SCHOOL | ANGLO (WHITE) | BLACK | SPANISH SURNAMED | TOTAL |
|---|---|---|---|---|
| A | 18 | 179 | 160 | 357 |
| B | 379* | --- | --- | 379 |
| C | 137* | --- | --- | 137 |
| D | 90 | 14 | 255 | 359 |
| E | 408 | --- | --- | 408 |
| F | 280* | --- | --- | 280 |
| TOTAL* | 1,312 | 193 | 415 | 1,920 |

---

*These totals may differ slightly for Schools B, C, and F. These schools reported a predominately Anglo population but the possibility exists that perhaps several students other than Anglo make up the population of these schools.

## Control Group

Selection of a control group was extremely difficult. At each testing site there were conditions which would not permit the selection of a control group from within the building or within the school district. For example:

1. At one site the other 15 elementary school buildings in the district were participating in career education inservice training being given by another university-based career education project. The two buildings participating in testing of ETC materials were not receiving training being given by the other project.
2. At one rural site the teacher and student population was so small that a control group could not be established within the district.
3. At two sites other career education activities were going on simultaneously and there was no way to monitor the quantity and quality of these efforts within the financial resources provided for the ETC Project.

Control groups of sorts could probably have been set up within each district. However, this type of situation would not have provided the type of meaningful data that was needed. In fact, the only comparisons that could have been made would be between each testing school and the control group located within that district.

At the suggestion of the statistical consultant for the project, a different plan for selecting a control group was devised. During the two years preceding the ETC Project, other career education materials had been tested by a career education project at Eastern Illinois University. The same types of data that were being collected for the ETC Project had been collected in the previous career education project. Six control groups had been used in the previous project. These control groups varied from the inner city schools of Chicago, Illinois, to rural downstate Illinois schools. All schools were located within Illinois and represented suburban, urban, and rural populations. At the time data was collected from these control groups, the groups had not participated in any career education activities.

The same amount of time had elapsed between pretest and posttest data gathering at the six control group sites as had elapsed between pretest and posttest data gathering for the ETC Project. The same instrumentation was used for both the six control group sites and the ETC testing sites for all data which was subjected to statistical analysis.

A random sample of teachers and students was selected from among the six control group sites so that the total N of control group teachers and the total N of control group students was comparable to the total N of teachers and the total N of students in each of the six field testing groups.

A major intervening variable, of course, was the historical factor. The data for the control group was collected two years prior to the data on the experimental groups. However, it is certain that control group students and teachers had not been exposed to career education activities. This seemed a more plausible alternative than using control groups where the quality and quantity of exposure to career education would have been very difficult to assess.

It is recognized that many different types of control groups could have been established: experimental groups vs. control group using materials X, experimental group vs. control group using materials Y, etc. However, the selection of a control group that had not been exposed to career education activities seemed to be the type of control group against which the most meaningful comparisons could be made.

## Procedures Used at Field Testing Sites

It should again be emphasized that there was one primary field testing site which was included in the project contract. However, through the cooperation of the third-party evaluators, three additional sites were selected to test materials as part of the overall evaluation design. Steps were taken to keep the testing procedures consistent at all four testing sites. However, the realities of school calendars, production of field testing copies of materials, and geographic distance of sites from project headquarters caused the following variations to occur:

1. The materials were tested six weeks longer at the primary site than at the other three sites.

2. Two to three hours of instructions on field testing procedures were given to all teachers at all sites. However, the instruction at the primary site was given by ETC Project staff whereas instruction at the other three sites was given by a local coordinator who had been trained by an ETC staff member. The instructions given to the coordinator were the same instructions that were given to the teachers at the primary site.

3. Coordinators at the three sites presented the two hours of field testing instructions in several different time frameworks. For example, at one site two separate one-hour sessions were conducted and at another site all instruction was given in one two-hour session.

4. More evaluation data was gathered at the primary testing site--particularly data which required structured interviews.

5. There was no on-site coordinator at the primary site. However, a local on-site coordinator or consultant was present on a part-time basis at the other three sites.

Procedures preceding the 2-3 hours of field testing instructions and procedures used during the instruction are described on the following page.

1. Permission to conduct field testing activities was received from the appropriate school personnel.

2. Building principals and local coordinators were shown the instruments that were to be used in gathering data. In some buildings, the principal "personalized" the letters that were being sent to parents by using phraseology that was appropriate for their building.

3. Teachers at each of the testing sites were told approximately three months prior to testing that they would be involved in field testing some career education materials. However, they were given no indication of the content or format of the materials except at the primary site. About two months before testing began primary site teachers were given a list of occupations around which materials were being written.

4. The two hours of field testing instructions focused primarily on how to use the curriculum guides. Practically no instruction was given on the history and philosophy of career education. This was done for a purpose. It should be recalled that in two of the six buildings, no inservice training had been given in career education. In three buildings, each teacher had received at least 36 clock hours of inservice training in career education. The evaluation design was attempting to see how teachers who have had no inservice training would react as opposed to those who have had extensive inservice training in career education. Therefore, the two-hour session concentrated on:

    a. Role of the teacher in reporting data

    b. Format of the guides

    c. Use of the "Master Index"

    d. How to get started using the guides

5. The field testing at the primary site was conducted from December 1, 1973 - March 31, 1974. Field testing at the other three sites was conducted from January 10, 1974 - March 31, 1974, with some variation at each of the three sites.

6. Teachers were instructed to fill out and return an infusion strategy questionnaire after completing each infusion strategy (teaching unit). Self-addressed, stamped envelopes were given to each teacher. These questionnaires began arriving at project headquarters approximately three weeks after testing began.

7. The ETC Project staff members conducted three monitoring visits at the primary site. The purpose of these visits

was to obtain feedback so that revision of materials could begin before the close of the field testing.

8. The third-party evaluators conducted on-site visits at all three sites to obtain feedback from teachers, students, and other support personnel on effectiveness of the materials.

9. After the testing had been completed, ETC staff visited two of the three sites selected by the third-party evaluators to obtain overall reactions to the materials. Otherwise, no ETC staff members were present at the three sites.

10. Teachers were instructed at all field testing sites that all materials would be collected about April 1. However, after pleas from several sites, teachers were allowed to retain the guides and use them until the close of the school year. These teachers recognized that they were working with a field test version and not the final product.

## CHAPTER IV

## THE FINDINGS

In Chapter III it was indicated that both descriptive and inferential data would be reported in the overall evaluation of the project and project products. This chapter is divided into three major areas on which data will be reported:

1. Construct and Content Validity
2. Administrative Feasibility and Product Usability
3. Student Learning Gain

The Appendices of this final report will present the evaluation reports that were prepared by the third-party evaluators.

### Construct and Content Validity

A team of educational personnel using the procedures described in Chapter III determined the construct validity of the career development objectives which had been outlined by the project staff. This same team along with field testing students and teachers determined the content validity of the infusion strategies.

Prior to the validation team review, major career development concepts and subconcepts had been identified by two ETC Project staff members. The concepts were then reviewed by the remaining three members of the project staff. Revisions were then made in order to incorporate suggestions and recommendations. The resulting concepts and subconcepts were prepared in the form of an evaluation instrument for use by members of the validation team. At this point, there were seven dimensions with 23 major concepts and 172 subconcepts distributed throughout the seven experience levels.

Based upon critical evaluation by the validation team and through use of the Delphi technique, the major concepts were reduced in number to 11. This was felt to be a much more manageable number for inclusion in an elementary school curriculum. Subconcepts were reduced to 76. The final list of career development concepts was by no means an exhaustive list. However, the list does reflect the concepts which should receive high priority in an elementary school career education program.

Throughout the field testing teachers were asked to evaluate the infusion strategies that they tested through use of the "Infusion Strategy Questionnaire." Three of the items on the questionnaire related directly to the content validity of the strategies:

Sixty-five returned.

Question 1. The teaching activities including the REACT pages of an infusion strategy were planned for use at a grade level. Did you find the activities appropriate for the experience level of your students? Yes _____ No _____

| Yes | No | No Response |
|---|---|---|
| 46 | 12 | 7 |

The main objection of field testing teachers to the activities as presented for experience level was that certain activities were too difficult and needed too much teacher direction. In the case of a rural Kansas first grade where most families have livestock, children found Ranch Hand activities too easy. A teacher in a combination third and fourth grade reported that the fourth graders enjoyed helping the third graders. In a nongraded 4-5-6 classroom, the teacher found the "cross grade-level arrangement" of the guides helpful. Other sections of this report will indicate that some teachers thought the activities were too easy and some thought they were too difficult for the intended grade level. From past experience in testing curricular products, the staff expected this response. That is why the developmental approach of presenting activities at different experience levels was a strategy which was devised at the beginning of the project. This type of format helps take care of grade level difficulty problems if the teacher is willing to individualize instruction.

Question 2. Subject matter in mathematics, science, language arts, and social studies was correlated with suggested career education activities in the infusion strategy. Did the subject matter correspond with what you normally teach during the year? Yes _____ No _____

| Yes | No | No Response |
|---|---|---|
| 51 | 6 | 8 |

The biggest problem for teachers trying to tie ETC materials in with their usual subject matter was placement in the year. Field testing took place for only a few months. Examples of teacher comments are, "Telling time is weeks away," or "This would have fit better in September." Teachers mentioned fitting the career education materials in with larger units of instruction which they customarily taught, such as the Pilot and Brakeman infusion strategies going well with a transportation unit. Math was the subject area most frequently mentioned as being too difficult as presented. A departmentalized sixth grade math teacher felt uncomfortable pulling math/career activities out of the infusion strategies. Language arts and social studies were most often mentioned as correlating easily with the career education activities. "Language arts and social studies were greatly enriched with use of the materials." Several teachers used REACT pages as a model and developed their own pupil pages to suit individual pupil needs.

Question 3. Each infusion strategy is written to a subconcept. The subconcept is found on the title page of the infusion strategy. Do the suggested activities help you teach the subconcept?
Yes _____ No _____ Explain ______________________________

| Yes | No | No Response |
|---|---|---|
| 42 | 5 | 18 |

Examples of teacher comments regarding exemplification of the subconcept in activities were, "The children saw the necessity of patience in dealing with others," "Most activities correspond with the child's idea of leisure-time activities," "The Bean Bag assembly line showed interdependence," "Good discussion came from the subconcept." Several teachers felt support of the subconcept in the REACT pages was weak. One thought the activities as written submerged the subconcept. Another thought explanation of the subconcept in the activities was confusing.

In the activities, subconcepts for Educational Awareness, Attitudes and Appreciations, and Career Information are identified. Do the suggested activities help you teach the identified subconcepts? Yes _____ No _____
Explain ______________________________________________

| Yes | No | No Response |
|---|---|---|
| 28 | 3 | 34 |

A typical positive comment was, "Activities really fit in." A negative comment was, "Extra verbage interferes with the organizational content."

Summary. The dimensions of career development that were outlined by the project staff--Attitudes and Appreciations, Career Information, Coping Behaviors, Educational Awareness, Lifestyle, and Self-Development are proving to be highly accepted by the elementary education and the elementary school counseling profession. Several recent professional journal articles have stressed the fact that many career education programs had not stressed the Lifestyle and Coping Behaviors Dimensions of career development.

Concepts were identified for each dimension. An original list of 23 major concepts and 172 subconcepts that had been compiled by the project staff was narrowed down to 11 major concepts and 76 subconcepts by a validation task force. This task force was comprised of career education personnel from throughout the United States. The final list of concepts is not an exhaustive list but it does represent a list of high priority concepts.

Reactions from teachers indicated that the infusion strategies did teach the concepts they were purported to teach. Some teachers reported the activities were too easy and some reported that the activities were too difficult for the grade level intended. This reaction was expected by the project staff and that is why a developmental approach with multi-ability experience level activities was devised.

## Administrative Feasibility and Product Usability

Seven criteria were established for determining whether or not it was feasible to use ETC materials in public school settings. Each of these criteria will be presented and discussed.

Criteria #1: Will the materials fit into existing school programs?

Criteria #2: Will the materials fit into the many patterns of school organization and school curriculum?

One of the overall objectives of the ETC Project was to design materials that could be infused with the ongoing elementary school curriculum. Materials were developed which integrated career development concepts and subject matter concepts in the areas of mathematics, science, language arts, and social studies.

ETC staff members made several observations at the prime testing site (Schools A and B):

Prime Site:
(Schools A & B)

It was obvious to the ETC staff that the materials were easily infused into the ongoing curriculum in School A but did not occur in School B to the extent that it did in School A. Much of this had to do with "readiness to accept career education." Teachers in both schools had not received previous inservice training in career education. Yet, in general, there was much more of a willingness to accept career education in School A than in School B. The achievement level in School B is higher than in School A. School B is proud of the job that they are currently doing and do not necessarily see why they should change. Basic skills come first and thus when career education activities were tried, the career activities tended to be a separate part of the curriculum. However, in School A teachers saw career education as the way to motivate students to learn basic subject matter and thus infusion definitely took place and with a great deal of enthusiasm.

The third-party evaluators selected three additional field testing sites and coordinated evaluation activities at these sites. These sites include Schools C, D, E, and F. Following are quotes from the evaluation reports. The quotes relate to the questions, "Will the materials fit into existing school programs and will the materials fit into the many patterns of school organization and school curriculum?"

Site 1:
(School C)

The teachers felt that four weeks was insufficient time in which to try the materials in their classroom. In spite of this handicap, the teachers have utilized the materials as best they could and regularly respond to our questioning by saying, "The materials are basically good, but we just don't have time to fully integrate them into our ongoing program. . . The teaching staff has modified, adapted, and adopted a large number of the activities. They do not feel, in their particular setting, that the strategies if precisely followed as patterned, are particularly good. However, they have picked and chosen various activities from within strategies that they feel have been highly successful. . . The teaching staff feels that the organization format for the ETC materials is excellent and have adapted much of it to their own system."

Site 2:
(School D)

"When the ETC material was introduced to the teachers, it was pointed out that the testing of this material was to be done only when infusion strategies could be found that would supplement and reinforce the lessons that would normally be taught. As a result, it was found that the materials were not used as much as one would normally expect in a test-site situation. Selection of materials used was based upon the course work previously scheduled. When it was found that an infusion strategy would, in fact supplement the curriculum, it was utilized by the teacher. . . In general, the people who have previewed the ETC material and those who actually used the material in their classes were very impressed with the material itself and its organization. The way the material is indexed makes it quite easy to infuse the material in the curriculum. A basic complaint received was the excessive repetition found. This problem not only increased the bulk of the material, but it made the material much too wordy. There was praise for the content and for the organization. It was easy to infuse, modify, adapt, and adopt, and it was generally felt that the material was neither too easy nor too difficult for the students."

Site 3:
(Schools E & F)

"It appeared to the evaluators that the evaluation of the ETC materials was done as an obligatory function; consequently, the use and testing of materials was less than desirable. . . The general teacher reaction to materials was that the reading level was observed to be one to two years beyond the level of the children. Too much reading, writing, and not enough doing type of activities was reported by a significant number of teachers. . . The organization was confusing and difficult to understand. . . In summary, the teachers felt that the presentation of ideas was far more valuable than the delivery system.

Summary. The data from Site 3 seems to be in conflict with data from Sites 1 and 2. Sites 1 and 2 both praised the ETC materials for their excellent organization whereas Site 3 reported that the organization was confusing and difficult to understand. How much of the Site 3 response can be attributed to the fact that the evaluation of ETC materials was done "as an obligatory function" is difficult to ascertain. Site 3 also reported that the materials were too difficult for the experience level recommended. Site 1 indicated that the materials were too easy and that teachers used activities at higher experience levels. This is exactly how the materials were intended to be used. If materials were too difficult for an experience level, then the developmental manner in which the materials are presented permits the teacher to select activities "above" and "below" experience level. Therefore, this criticism by Site 3 can possibly be viewed as disinterest in the materials if the teachers failed to exercise the initiative to select strategies that were at the students' ability levels.

Both Sites 1 and 2 made repeated requests to keep the ETC materials for use beyond the testing period. This unobtrusive measure is indicative that the materials are indeed usable.

There were various curricular patterns and school organization patterns at the four field testing sites. Some classrooms included children from several grade levels such as 1-2, 3-4, etc. In the intermediate grades some schools had self-contained classrooms and some schools had departmentalized classrooms. Some rooms had teacher aides and some did not. Some schools had media resource people and some did not. The ETC materials were found to be workable in all of these settings.

The field testing design provided for the testing of materials in schools where teachers had had inservice training in career education (Schools C, D, E, and F) and in schools where teachers had had no previous inservice education in career education (Schools A & B). Schools A, C, and D--schools that reflected no past exposure to career education and schools that reflected past exposure to career education--had little difficulty using the materials. Teachers in these schools selected strategies that fit in with their teaching plans and found they could modify and adapt the materials to fit their teaching styles and their school organization plan.

Teachers in Schools B, E, and F--schools that reflected no past exposure to career education and schools that reflected past exposure to career education--tended to use the materials as presented and were not as selective as teachers in Schools A, C, and D. Neither was there much effort to modify and adapt the materials. It should be noted that teachers at Schools E and F were from the same school system and they had been involved with career education for two and one-half years. These teachers tended to use the materials they had already been using. However, teachers in School D had also been involved with career education for approximately the same amount of time as Schools E and F but teachers at School D were selective and did adapt and modify the materials.

In conclusion, the materials can be used in the various settings that were represented by the field testing sites. However, teachers at some sites tended to be more selective and more willing to adapt materials to fit their needs while teachers at other sites tended to use the materials as presented. This is probably fairly representative of what will happen when the materials are made available for mass use. It was the intent of the developers of the materials that teachers would modify and adapt the materials. However, for those teachers who do not have the time to do so, the materials do provide enough direction for a teacher to begin a career education program.

Criteria #3: Will the materials be in a price range that would permit school systems to use the materials?

Estimates have been received from publishers on retail prices for each of the ETC guides. If the guides are regrouped from the dimension approach to a grade level approach, it is estimated that each of the three grade level guides (K-2, 3-4, and 5-6) will retail for $15. Each classroom would need one guide. For an average classroom size of 20, the per pupil cost for the guide would be $.75. If schools choose to use the REACT pages, then additional costs for paper and duplicating supplies should be added to the $.75. This is a relatively low per pupil cost for the basic curricular materials. Schools can incur additional costs if they choose to take many field trips that are distant from the school or if they wish to purchase manipulative items. However, the ETC materials have been designed so that little additional cost is needed. Children can make some of the manipulatives, resource people in the classroom can be substituted for field trips, etc. The cost is a local option.

Criteria #4: Will the materials have "built-in" inservice and preservice training potential?

At the conclusion of the field testing, teachers were asked several questions which related to inservice training:

Question 1. If you could have more inservice preparation for use of the materials, what kinds of inservice activities would you like to have? (For specific responses see Question 3.)

Most teachers did not respond to this question. Of those who did, several preferred to watch the demonstration of a unit from the guide or visit a classroom where ETC materials were in use. One wanted a workshop which would be an opportunity to organize his own lessons and search out reference materials for the planned lessons. Another teacher thought it would be valuable to visit other school districts to observe their career education programs. Teachers asked for very specific program details in inservice including clarification of ETC terminology.

Question 2. How much inservice preparation do you think is needed?

| | School A | School B | School C | School D | Total |
|---|---|---|---|---|---|
| One-day session at your school | 3 | 5 | 0 | 2 | 10 |
| One-week workshop conducted at your school | 5 | 2 | 1 | 1 | 9 |
| Two- or three-hour session, once a week for nine weeks at your school | 3 | 5 | 3 | 0 | 11 |
| Two- or three-hour session, once a week for 18 weeks | 1 | 0 | 0 | 1 | 2 |
| One course on university campus | 0 | 1 | 0 | 1 | 2 |
| Several courses on university campus | 0 | 0 | 0 | 0 | 0 |
| Full-time enrollment for one year at a university | 0 | 0 | 0 | 0 | 0 |

Two School B teachers did not respond to this question.

One School A teacher suggested a once-a-month meeting at school throughout the year to share useful teaching techniques and to answer questions.

Two teachers choosing the 9-week and 18-week sessions suggested that these should count for college credit.

Question 3. Which of the following inservice activities would appeal to you most? (Teachers were instructed to rank order their first, second, and third choices.)

A response of "1" was assigned 3 points
"2" was assigned 2 points
"3" was assigned 1 point.

Total points from replies of

| | School A | School B | School C | School D | Total |
|---|---|---|---|---|---|
| Actually going on field trips to see how field trips should be conducted | 7 | 2 | 2 | 1 | 12 |
| Demonstrations on how to teach students interviewing skills | 4 | 5 | 2 | 1 | 12 |
| Background reading on elementary school career education | 0 | 8 | 0 | 0 | 8 |

| | School A | School B | School C | School D | Total |
|---|---|---|---|---|---|
| Viewing films which explain the career education movement | 3 | 15 | 2 | 1 | 21 |
| Viewing and working with student materials that are available for use in career education programs | 3 | 7 | 0 | 8 | 18 |
| Visiting other classrooms to see how teachers are conducting career education activities | 12 | 19 | 9 | 8 | 48 |
| Experiencing an infusion strategy activity from the point of view of the student | 6 | 6 | 2 | 4 | 18 |
| Reviewing career education curriculum guides that have been developed by other school systems | 4 | 3 | 0 | 1 | 8 |
| Reviewing and clarifying ETC dimension guides | 4 | 2 | 2 | 0 | 8 |
| Methods and rationale for teaching any or all of the seven ETC dimensions | 4 | 8 | 4 | 0 | 16 |

One School B teacher, four School A teachers, and one School D teacher did not respond to this question.

The responses to Question 2 indicate that the following priorities were given on types of inservice preparation needed for using the ETC materials:

Priority 1: Two- or three-hour session, once a week for nine weeks at your school

Priority 2: One-day session at your school

Priority 3: One-week workshop conducted at your school

Responses to these priorities were very consistent among teachers who had had no inservice preparation in career education and those teachers who had had at least 36 clock hours of inservice education in career education. It is interesting to note that teachers did not feel that they needed training in excess of nine weeks. The option of "two- or three-hour session, once a week for 18 weeks" was not chosen. Evidently, teachers feel they definitely need inservice training to use the ETC materials but that this training does not need to exceed nine weeks.

The responses to Question 3 indicate that the following types of inservice activities were given high priority:

| | |
|---|---|
| Priority 1: | Visiting other classrooms to see how teachers are conducting career education activities |
| Priority 2: | Viewing films which explain the career education movement |
| Priority 3: | Experiencing an infusion strategy activity from the point of view of the student |
| Priority 4: | Viewing and working with student materials that are available for use in career education programs |

Summary. When teachers were asked what type of inservice preparation was needed to use the ETC materials, they gave top priority to a two- or three-hour session, once a week for nine weeks at their school. This was a consistent finding among teachers who had had previous inservice training in career education and those who had had none. Their second choice was a one-day session at their school. Teachers did not opt for the maximum options of 18-week or year-long inservice programs. Inservice is needed but it does not have to be of long duration.

Teachers felt that visiting other classrooms to see how teachers are conducting career education activities, viewing films which explain the career education movement, experiencing an infusion strategy from the point of view of the student, and that viewing and working with student materials for use in career education programs should be a part of an inservice program.

### Criteria #5: Will the materials fit into the physical space available in schools?

There is no particular problem in finding classroom space for the ETC materials. However, many teachers remarked that the four dimension volumes were a little overwhelming. They had a great conflict in determining whether they were willing to forego the developmental approach (all six grade levels) in each volume for a volume that contained materials for their grade level only. After considerable discussion with teachers a compromise was reached. The materials are to be packaged in three volumes: K-2, 3-4, and 5-6. However, each of the three volumes will still contain concepts for all six levels but will contain teaching strategies for only the grade levels represented in the guide titles.

### Criteria #6: Will the materials interest students?

A random sample of 83 children were asked whether they "liked, disliked, or were noncommittal" about REACT pages. The 83 children were shown 130 of the 268 REACT pages. Each child was asked to comment on 5-6 REACT pages. Several children were asked to comment on the same REACT page so that several viewpoints could be heard before revisions were made. The pupil responses are shown below.

| Liked | Disliked | Noncommittal |
|---|---|---|
| 327 | 70 | 56 |

One child's pleasure was often the other's pain. Examples are:

"I like to fix cars." --- "I don't like to get greasy."
"I like role playing." --- "Role playing doesn't turn me on."
"Coloring is fun." --- "I want to color my own pictures."
"I like to get the facts." --- "I don't like to look up things."
"I can't find the information."
"I like to be scared." --- "I don't like the night and ugly faces."

Many of the positive comments were general such as "liked it," "fun," or "enjoyable." Children seemed to prefer concrete activities such as building model houses, talking to a real waitress in a real restaurant, having a store in the classroom, and watching seeds grow. They also preferred personal things. "I got to put it together myself." "I got to tell what I thought." Interviewing real workers and taking field trips were activities almost always enjoyed. Negative comments often reflected the individual's difficulty with an activity, e.g., "I don't like to measure in centimeters," "I didn't do it right," "Reports take too much time." General negative comments were "uninterested," or "bored." Sources of boredom were too much talking, reading, or listening to others' reports.

Summary. The data from children consistently revealed at all test sites that children liked career education activities and the REACT pages. It is the judgment of the ETC staff and third-party evaluators that children were far more excited about REACT pages than the teachers.

Criteria #7: Will the materials have potential for acceptance by schools?

Several different data-gathering strategies were used to obtain information on how the ETC materials were accepted:

1. Structured interviews with teachers and supportive staff
2. Observations made by project staff and third-party evaluators
3. Questionnaires completed by parents
4. Pretest and posttest administration of an instrument to measure teacher attitudes toward career education.

At the conclusion of the field testing, teachers were asked several questions which have a direct bearing on acceptance of the ETC materials:

Question 1. Now that you have had some time to become familiar with the materials, how would you use the materials next year?

School A--13 responses

Two teachers simply reported that they would use the materials again. Five would "coordinate," "integrate," "relate" career education to other subjects. Two wished to be more thorough and cover more of the guide. One of these would do so by starting earlier in the year and involving more professionals. Three teachers would prefer to simplify the materials. One first grade teacher wanted to use the kindergarten set and one sixth grade teacher wanted to use the third level set of materials. A bilingual teacher found the materials useful with her kindergarteners for language development.

School B--14 responses

Two teachers would plan to use the career education materials in conjunction with the other subjects in their curriculum, "according to common elements." Three teachers spoke of using the materials selectively especially regarding omitting some of the REACT pages. One teacher, taking an opposite tack, wanted to use the materials more thoroughly. One teacher felt the materials would be more useful in textbook form; another wanted a children's workbook. Three teachers did not wish to use the career education materials again at all. One of these would teach career education only if there were time left after teaching essentials such as "reading, writing, and spelling."

School C--4 responses

Teachers looked forward to being able to use the materials from the beginning of the year. They stressed selective use of the REACT pages and correlation with the subject matter curriculum.

School D--5 responses

Teachers, anticipating another year with the materials, would make more extensive use of the materials and integrate the ideas and information contained in the guides into all their subject matter. One teacher said she would use the material simply as a guide and would adapt it to suit her needs. Another said she would use the material in the same way she used it during the field testing.

Question 2. Did you try any infusion strategies that you would not use again? Which ones?

School A

Only one teacher reported an infusion strategy which she would not use again, the one about a carpenter. As a reason she reported that the children had too little background in the use of tools. The other teachers encountered no infusion strategies they would not use again. One teacher would "vary her approach" the second time around. Several teachers mentioned that they would omit certain REACT pages mainly because the pages were too difficult for their children. A kindergarten teacher suggested enlarging the type and giving more drawing space on the REACT pages.

School B

In general the teachers would be willing to try infusion strategies again. The most frequent comment was that, second time around, each infusion strategy would be used selectively. Activities which were too difficult or too easy would be removed. Teachers would also choose to omit several REACT pages which they found too difficult for the children. Teachers would like to have a teacher's answer page for the REACTS and more ready-made forms for the children such as blank check forms for the Bank Teller infusion strategy. One teacher didn't like activities which called for children to bring things because the items, bottle caps, buttons, cards, etc., "just simply aren't brought in."

School C

Three teachers would use any of the tested infusion strategies again, but would select REACT pages and would add their own activities to some of the units. One teacher said she would not use the infusion strategy about the museum curator again. She felt this topic was not pertinent to their rural area and that, though the children became very involved in the activities, they "could care less" about museums.

School D

All teachers reported that they found no infusion strategies they would not try again.

Question 3. Do you think you could take the career education concepts and objectives and develop your own strategies for weaving these concepts and objectives into the subject matter you teach?

| | Yes | No | No response |
|---|---|---|---|
| School A | 13 | 0 | 0 |
| School B | 12 | 0 | 2 |
| School C | 4 | 0 | 0 |
| School D | 5 | 0 | 0 |

Nearly every teacher felt capable of developing their own strategies for weaving career concepts and objectives into their subject matter. Some stated that they had been doing this before the formal program of field testing began. Others said that this was precisely what they had tried to do during the field testing.

Question 4. Infusion strategy activities are to be adapted for individual classroom use. Tell any activities not specifically included in the infusion strategy which developed because of the presence of the field testing materials in your classroom.

The ETC materials generated a variety of spin-off activities. A listing follows:

Made up more abbreviations
Made a table top model of a grocery store
Created a model city of the future

Went into more depth on following directions
Set up three different types of restaurants--children ordered, served, and figured billing and wages
Children formed a living train, using brakeman's signals.
Groups developed a product and advertised it.
A high school building trades student came and showed slides.
Added more words to the vocabulary list
Dramatized crossing streets
Children built their own building of toothpicks.
Children told about plane trips.
Children wrote a paper in assembly line fashion.
We brought pictures from magazines and made a large mural.
Borrowed films and materials from the U. S. Forest Service
Used shapes to make pictures
A nurse came to talk.
The telephone company sent a lineman.
Took a trip to the Great Lakes Naval Training Center
Had a used book sale
A parent who sells real estate came to talk.

Summary. The concrete plans that many teachers had made for using the materials differently the "next time around" gave an indication that the materials were being accepted. Many teachers indicated that now they knew what the materials were and that they could better coordinate the materials with their entire year's program. The field testing teachers were at a serious disadvantage in regard to coordinating the materials with their teaching plans. The fact that in such a short space of time teachers were able to select strategies that fit in with their teaching plans is an indication that if teachers are given more "lead time" they will be able to coordinate the ETC materials with subject matter they are teaching.

At the conclusion of the field testing, supportive personnel were interviewed to further determine administrative feasibility. Twenty-four supportive staff at Schools A, B, C, and D were interviewed. These staff members included:

Nurse - 2
Learning Disabilities - 2
Men's Physical Education - 2
Reading Specialist - 3
Secretary - 2
Resource Teacher - 1
Speech Therapist - 1
Custodian - 2
Librarian - 3
School Psychologist - 1
Instrumental Music - 1
Cook - 1
Principal - 1
Media Specialist - 1
Science Specialist - 1

Question 1. When were you first aware that teachers here in the building were testing some new materials for us? How did you learn they were testing materials?

| | Aware | Not Aware |
|---|---|---|
| School A | 7 | 2 |
| School B | 7 | 1 |
| School C | 2 | 0 |
| School D | 4 | 1 |
| Total | 20 | 4 |

Nearly all supportive members interviewed were aware that career education materials were being field tested in their schools. They found out about the field testing by communicating with principals, attending staff meetings where the testing was discussed, and by casual conversation with teachers. Supportive staff from Schools A and B who serve other schools in addition to the ETC field testing schools were informed by their superiors that the district would be implementing career education during 1973-74. They did not know which were field testing specifically ETC materials.

An instrumental music teacher found out late in the field testing about the career education when his band period was cut for a carpenter's visit. A cook found out three weeks before the end of the field testing when her sixth grade son told her about people who were coming to the classroom to talk about careers.

Question 2. Was your work as a ___________ changed in any way while the teachers were working with the materials? How?

| | Yes | No |
|---|---|---|
| School A | 3 | 5 |
| School B | 3 | 6 |
| School C | 1 | 1 |
| School D | 0 | 5 |
| Total | 7 | 17 |

The field testing of career education materials had some effect on the work of supportive staff. A nurse, a custodian, a music teacher, secretaries, and librarians at the schools were asked to talk to classes about their jobs. One school secretary does her own career education. She has a group of five or six children in her office for one hour each week. She trains them in office procedures and says the children are a real help. The children may choose the office practice activities as part of a mini-course program. An even sampling of boys and girls choose the office practice. The groups rotate each six weeks.

Librarians placed orders for career education books and grouped books by such topics as "careers," "products," and "services." A principal said the field testing time was too short to really change his routine; however, he noticed career education was frequently the topic of his conversations with teachers.

Question 3. Did you notice any changes in the physical appearance of the rooms? If so, how did they change?

| | Noticed Changes | Did Not Notice Changes |
|---|---|---|
| School A | 2 | 6 |
| School B | 6 | 3 |
| School C | 0 | 2 |
| School D | 0 | 5 |
| Total | 8 | 16 |

Most of the staff members rarely go into the classrooms. They did notice hallway bulletin boards on the career education theme and that resource persons were going into classrooms. One teacher explained to her class that papers on the floor and other untidy behavior caused the custodian "grief." The custodian thought that this small bit of career education may have changed the physical appearance of that classroom. Another teacher borrowed pictures and filmstrips from a member of the supportive staff and kept them in her room. The librarians gave teachers pertinent supplementary reading books to keep in their classrooms.

Question 4. Did you notice any differences in types of requests from teachers for services?

| | Noticed Differences | Did Not Notice Differences |
|---|---|---|
| School A | 3 | 5 |
| School B | 3 | 6 |
| School C | 1 | 1 |
| School D | 1 | 4 |
| Total | 8 | 16 |

Most of the support staff did not detect a difference in the type of request received from teachers. However, normal requests were often geared to career education. For example, the school secretary sends notes to teachers from the principal--sometimes these concerned career education. The librarian usually assembled supplementary reading materials on special topics. During the field testing these were frequently career topics. Most often the new requests were to speak to a class about one's work. For this task the classroom teachers recruited secretaries, nurses, librarians, custodians, and a music teacher. A learning disabilities teacher was asked to use career education vocabulary with the children assigned to her. A reading specialist noted that children were asking more questions about career topics. One support person was asked to help chaperone two career education field trips. A secretary said she greeted resource people as they arrived and conducted them to the classrooms. A principal received several requests for field trip arrangements.

Question 5. Is there anything else that you would like to say about changes that you might have noticed in regard to the students, the teachers, or yourself?

Support personnel were eager to comment about career education in general. A repeated comment was that career awareness was a concern before the formal program began. One person observed that the career education program exposed children to much more than their usual environment offered and children's interest in their own futures had increased during the program. These outside-the-classroom observers noted that from discussions at lunch and coffee, teachers, too, seemed to have a better idea about what is involved in other people's work lives. One person expressed fear that a career education program may pry teachers out of teaching and into other careers. A custodian who liked the idea of career education felt teachers should do more with it. He was disappointed that some teachers had used the materials very little. A librarian liked the way practical applications were included in career education, such as balancing checkbooks, eating right, how to buy a car, how to cook, etc. A secretary thought that the children's increased awareness of different services performed by their parents was beneficial. A custodian found out that the kindergarteners thought he owned the school since he was the one who cleaned it and fixed it.

In music, the teacher said that K-6 children just learn to play an instrument. They aren't thinking about the future yet. Though unaware of the career education program, this teacher always tries to incorporate the career idea into his own methodology. Some persons, such as the school psychologist, have schedules that rarely permit them time to observe in the classrooms and become acquainted with instructional programs. These persons felt they would be more effective if such time were available.

Some persons interviewed liked career education but preferred not to think of it as something new. "Don't you think primary teachers have always done this?" they would say. "We always had units on community helpers. We always had field trips."

Several support persons worked in more than one school. They emphasized that the principal usually sets the tone in a building and the way he communicates a new program is a determinant in its success. They also noted that in some schools children seemed spoiled. "You must hand them the world to motivate them." In other schools children are motivated by any interesting thing. New programs are easier to start with these children.

A science specialist and a language arts specialist examined the guides out of their own interest. In their opinion the general scheme of the guides was "excellent," the "most well-organized and comprehensive career education materials ever seen." They were intrigued by the integrative aspects of the program.

A principal said his staff was generally pleased and not "threatened" by the materials. Teachers did a good job and children seemed to enjoy the work. He regretted that they had not been able to field test for an entire year.

Summary. The chief ways supportive staff became involved in the career education program were by acting as resource people and by helping when the program applied to their work, such as using career vocabulary or displaying library books by career topics.

Supportive staff who did not have an opportunity to become involved in the program expressed regrets.

Four of the six field testing schools returned parent evaluations of the career education program: Schools A, B, C, and D.

| Average Daily Attendance at the Sites | | Number of Parent Evaluation Forms Returned | Rate of Return |
|---|---|---|---|
| School A | 312 | 79 | 24% |
| School B | 337 | 176 | 52% |
| School C | 134 | 62 | 46% |
| School D | 337 | 61 | 18% |
| Total | 1,120 | 378 | 34% |

Parents were asked four questions. Data are presented for each question. Where appropriate, a discussion and analysis of the data will be presented.

Question 1. Did your child tell you that he/she was working with some career education materials? If so, what did he/she say?

| | Yes | No | No Response | Total |
|---|---|---|---|---|
| School A | 28 | 48 | 3 | 79 |
| School B | 77 | 96 | 3 | 176 |
| School C | 40 | 22 | 0 | 62 |
| School D | 21 | 37 | 3 | 61 |
| Total | 166 | 203 | 9 | 378 |

Children who did discuss career education with their parents were impressed by several different aspects of the program. They often reported on specific career education activities such as taking surveys, conducting interviews, and keeping a checking account. In the main, children talked about resource persons who came into their classrooms and field trips they were taking. Several children wanted their parents to come to school to make a presentation about their occupations. A few children told about doing REACT pages. Several told about specific careers under study and elaborated about careers that had personal appeal for them. One parent said his child was not interested in career education and another said his child was bored by the program.

Question 2. Did you notice if your child had to bring materials from home for projects they were working on in connection with the career education activities?

| | Yes | No | No Response | Total |
|---|---|---|---|---|
| School A | 19 | 23 | 37 | 79 |
| School B | 37 | 125 | 14 | 176 |
| School C | 31 | 27 | 4 | 62 |
| School D | 15 | 32 | 14 | 61 |
| Total | 102 | 207 | 69 | 378 |

Did you notice any changes in regard to items your child was requested to bring from home? ___ More things? ___ Less things? ___

| | Yes | (More | Less) | No | No Response | Total |
|---|---|---|---|---|---|---|
| School A | 33 | (12 | 10) | 39 | 7 | 79 |
| School B | 25 | (16 | 8) | 131 | 20 | 176 |
| School C | 24 | (20 | 3) | 33 | 5 | 62 |
| School D | 20 | (15 | 3) | 31 | 10 | 61 |
| Total | 102 | (63 | 24) | 234 | 42 | 378 |

Question 3. In the last two months would you say that your child: (Circle one choice in each category)

Talked about school

| | Less | More | About the Same | No Response | Total |
|---|---|---|---|---|---|
| School A | 3 | 45 | 22 | 9 | 79 |
| School B | 2 | 57 | 116 | 1 | 176 |
| School C | 2 | 24 | 36 | 0 | 62 |
| School D | 1 | 21 | 34 | 5 | 61 |
| Total | 8 | 147 | 208 | 15 | 378 |

Enjoyed school

| | Less | More | About the Same | No Response | Total |
|---|---|---|---|---|---|
| School A | 3 | 44 | 27 | 5 | 79 |
| School B | 9 | 57 | 108 | 2 | 176 |
| School C | 3 | 25 | 34 | 0 | 62 |
| School D | 2 | 17 | 39 | 3 | 61 |
| Total | 17 | 143 | 208 | 10 | 378 |

Worked

| | Harder | Less Hard | About the Same | No Response | Total |
|---|---|---|---|---|---|
| School A | 45 | 3 | 26 | 5 | 79 |
| School B | 58 | 2 | 115 | 1 | 176 |
| School C | 24 | 2 | 36 | 0 | 62 |
| School D | 26 | 1 | 32 | 2 | 61 |
| Total | 153 | 8 | 209 | 8 | 378 |

Question 4. In the last two months has your child changed in any other way that you can think of?

| | Yes | No | No Response | Total |
|---|---|---|---|---|
| School A | 30 | 35 | 14 | 79 |
| School B | 43 | 121 | 12 | 176 |
| School C | 14 | 37 | 11 | 62 |
| School D | 16 | 37 | 8 | 61 |
| Total | 103 | 230 | 45 | 378 |

Parents noted several types of changes in their children during the field testing period. Types of changes most frequently mentioned were that the child was exhibiting more self-reliance and independence, that the child was thinking and verbalizing more about his/her future, that the child was more concerned about work both at home and at school, that the child was reading more, and that the child showed improved behavior patterns such as politeness and verbalizing a problem before hitting a brother or sister. One parent thought that career education was taking up too much of the child's time; another, along the same line, said the child no longer had adequate time for home reading.

Question 5. Would you like to have career education continue to be a part of your child's school program? (Circle one) Yes No

| | Yes | No | No Response or Undecided | Total |
|---|---|---|---|---|
| School A | 78 | 0 | 1 | 79 |
| School B | 118 | 32 | 26 | 176 |
| School C | 56 | 1 | 5 | 62 |
| School D | 49 | 2 | 10 | 61 |
| Total | 301 | 35 | 42 | 378 |

Of the few negative responses to this question, most frequent comments were that the children were too young for career education and needed more time for "hard core" subjects such as reading, writing, and mathematics. Those who were undecided overwhelmingly asked for more information about the program. They felt they knew too little about it to venture an opinion.

Summary. The large number of positive responses indicates that parents who returned the questionnaire do indeed want career education to be a part of their child's school program. Since the questionnaire was administered near the completion of the ETC testing period, it is likely that ETC materials had some influence on the acceptance of career education by parents.

Classroom teachers are an important group that must be surveyed regarding acceptance of the materials. An instrument, "Career Education Information Inventory," was administered to teachers in a pretest-posttest control group design. The following hypotheses were tested:

$H_1$ There is no significant difference in beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory by the total group of teachers who used ETC materials and the control group.

$H_2$ There is no significant difference in teacher beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between each of the six field testing schools or between each of the six field testing schools and the control group.

$H_3$ There is no significant difference in beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between teachers in each of the four districts that used ETC materials.

$H_4$ There is no significant difference in teacher beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between field testing schools where no career education inservice training had been given prior to involvement with the ETC Project (Schools A & B) and field testing schools where from 30-40 clock hours of inservice training in career education had been given prior to involvement with the ETC Project (Schools D, E, and F).

$H_5$ There is no significant difference in teacher beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between field testing schools where no career education inservice training had been given prior to involvement with the ETC Project (Schools A and B) and the control group.

$H_6$ There is no significant difference in teacher beliefs about career education as measured by each item and each total pretest and posttest score on the Career Education Inventory between field testing schools where from 30-40 (Schools D, E, and F) clock hours of inservice training in career education had been given prior to involvement with the ETC Project and the control group.

The Mann-Whitney $\underline{U}$ test was used to determine significant differences and is considered to be one of the most powerful of the nonparametric tests. Since the groups could not meet the t test assumption of normality, the $\underline{U}$ test is a useful alternative. Data in this section is organized as follows:

1. Pretest Scores (By Item)
2. Posttest Scores (By Item)
3. Pretest Scores (Total Score)
4. Posttest Scores (Total Score)
5. Pretest and Posttest Mann-Whitney U values (By Item)
6. Pretest and Posttest Mann-Whitney U values (Total Score)
7. Discussion

The format of the "Career Education Information Inventory" is found in Chapter III. It should be noted that the instrument used a Likert-type format and participants were asked to choose one of five answers for each item: (1) Strongly Agree, (2) Agree, (3) Undecided, (4) Disagree, or (5) Strongly Disagree. A directional answer was established for each item. The most appropriate response was given a weight of 5. The number of individuals who selected each response alternative for each item is shown in Tables 5 and 6 in weighted order. For example, on the pretest the 14 teachers in School A responded as follows to Item 1 on the instrument: (Strongly Agree was considered the most positive response.)

| Strongly Disagree | Disagree | Undecided | Agree | Strongly Agree |
|---|---|---|---|---|
| 0 | 0 | 0 | 12 | 2 |

On the pretest, the 14 teachers in School A responded as follows to Item 4 on the instrument: (Strongly Disagree was the most positive response.)

| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 1 | 0 | 0 | 6 | 7 |

An asterisk has been placed by each item on which "Strongly Disagree" was the most positive response.

## TABLE 5

## PRETEST SCORES (BY ITEM) FOR TEACHERS
## ON
## CAREER EDUCATION INFORMATION INVENTORY

| Item No. | School A N=14 | School B N=15 | School C N=6 | School D N=11 | School E N=3 | School F N=5 | School G N=15 |
|---|---|---|---|---|---|---|---|
| 1. | 0,0,0,12,2 | 2,2,6,4,1 | 0,1,0,3,2 | 0,1,2,5,3 | 0,0,0,3,0 | 1,2,1,1,0 | 0,1,1,12,1 |
| 2. | 0,1,1,11,1 | 2,4,4,5,0 | 0,1,0,5,0 | 0,1,1,6,3 | 0,0,0,2,1 | 0,3,0,1,1 | 1,2,3,9,0 |
| 3. | 1,0,2,8,3 | 0,1,1,11,2 | 0,0,0,3,3 | 0,0,0,3,8 | 0,0,0,1,2 | 1,3,0,1,0 | 0,2,1,9,3 |
| *4. | 1,0,0,6,7 | 0,0,2,7,6 | 0,0,0,4,2 | 0,2,0,2,7 | 0,0,0,1,2 | 0,0,0,2,3 | 0,0,2,7,6 |
| 5. | 0,0,1,8,5 | 0,2,1,8,4 | 0,0,0,5,1 | 0,0,0,2,9 | 0,0,0,1,2 | 0,0,0,2,3 | 0,0,2,10,3 |
| *6. | 1,2,1,6,4 | 2,5,2,1,5 | 0,0,0,3,3 | 1,2,0,3,5 | 0,0,0,0,3 | 0,0,0,1,4 | 2,2,1,6,4 |
| 7. | 0,0,1,3,10 | 1,1,0,2,11 | 0,0,0,3,3 | 0,0,0,3,8 | 0,0,0,0,3 | 0,0,0,2,3 | 0,0,1,4,10 |
| 8. | 0,2,4,6,2 | 3,6,1,5,0 | 0,0,1,5,0 | 1,0,6,2,2 | 0,2,1,0,0 | 1,2,2,0,0 | 0,1,3,10,1 |
| 9. | 0,1,1,11,1 | 0,1,3,8,3 | 0,0,1,5,0 | 0,0,1,8,2 | 0,1,1,0,1 | 0,0,2,3,0 | 0,1,3,10,1 |
| *10. | 1,3,1,6,3 | 3,3,0,8,1 | 0,1,0,5,0 | 1,1,1,6,2 | 0,1,0,1,1 | 0,3,0,2,0 | 1,4,1,7,2 |
| 11. | 0,0,0,5,9 | 0,1,1,7,6 | 0,1,0,4,1 | 0,0,0,3,8 | 0,0,1,1,1 | 0,0,0,5,0 | 0,0,1,7,7 |
| *12. | 0,2,1,9,2 | 1,2,1,7,4 | 0,0,0,3,3 | 0,0,1,3,7 | 0,0,0,2,1 | 0,0,0,5,0 | 1,4,0,8,2 |
| 13. | 0,0,0,6,8 | 0,0,1,7,7 | 0,0,0,5,1 | 0,0,0,3,8 | 0,0,0,0,3 | 0,0,0,4,1 | 0,0,1,7,7 |
| *14. | 0,0,0,5,9 | 0,0,0,7,8 | 0,0,0,3,3 | 0,0,0,2,9 | 0,0,0,0,3 | 0,0,0,1,4 | 0,0,0,7,8 |
| 15. | 0,0,0,6,8 | 0,0,0,6,9 | 0,0,0,4,2 | 0,0,0,2,9 | 0,0,0,1,2 | 0,0,0,2,3 | 0,0,0,7,8 |
| 16. | 0,0,1,7,6 | 0,1,0,7,7 | 0,0,0,2,4 | 0,0,0,3,8 | 0,0,0,2,1 | 0,0,0,4,1 | 0,0,1,7,7 |
| 17. | 1,0,1,9,3 | 0,1,3,8,3 | 0,1,0,4,1 | 0,0,0,5,6 | 0,0,1,0,2 | 0,0,2,2,1 | 0,1,2,9,3 |
| 18. | 2,5,3,4,0 | 2,8,3,1,1 | 1,4,0,0,1 | 4,4,1,2,0 | 0,2,0,1,0 | 1,3,0,1,0 | 0,7,4,3,1 |

* = "Strongly Disagree" was most positive response.

## TABLE 6

## POSTTEST SCORES (BY ITEM) FOR TEACHERS ON CAREER EDUCATION INFORMATION INVENTORY

| Item No. | School A N=13 | School B N=15 | School C N=6 | School D N=11 | School E N=3 | School F N=5 | School G N=15 |
|---|---|---|---|---|---|---|---|
| 1. | 0,1,3,5,4 | 1,4,4,4,2 | 1,0,0,4,1 | 1,0,1,7,2 | 1,1,0,1,0 | 1,2,0,2,0 | 0,0,2,12,1 |
| 2. | 0,2,3,5,3 | 4,6,1,4,0 | 1,0,2,3,0 | 0,0,3,6,2 | 0,1,1,1,0 | 0,3,0,2,0 | 1,2,4,8,0 |
| 3. | 0,1,1,5,6 | 1,5,2,5,2 | 0,1,1,2,2 | 0,0,0,3,8 | 0,0,0,2,1 | 0,0,2,1,2 | 0,2,1,10,2 |
| *4. | 0,1,1,2,9 | 0,0,1,7,7 | 0,0,0,2,4 | 0,1,0,4,6 | 0,0,0,0,3 | 0,0,0,0,5 | 0,0,2,7,6 |
| 5. | 0,1,1,5,6 | 1,0,1,11,2 | 0,0,0,2,4 | 0,0,0,4,7 | 0,0,0,0,3 | 0,0,0,1,4 | 0,0,1,11,3 |
| *6. | 0,2,2,5,4 | 2,4,4,2,3 | 1,0,1,1,3 | 0,2,2,5,2 | 0,0,0,0,3 | 0,0,0,1,4 | 2,2,1,7,3 |
| 7. | 0,0,0,5,8 | 0,0,1,8,6 | 0,0,0,0,6 | 0,0,0,1,10 | 0,0,0,0,3 | 0,0,0,0,5 | 0,0,1,5,9 |
| 8. | 0,2,4,4,3 | 1,9,2,2,1 | 1,0,1,3,1 | 0,2,6,3,0 | 0,2,1,0,0 | 2,1,1,1,0 | 0,2,3,9,1 |
| 9. | 0,0,1,11,1 | 2,3,4,6,0 | 0,0,0,2,4 | 0,1,1,6,3 | 0,0,0,1,2 | 0,0,0,4,1 | 1,4,1,7,2 |
| *10. | 0,0,1,8,4 | 2,3,4,6,0 | 0,2,1,0,3 | 0,2,1,6,2 | 1,0,0,1,1 | 2,1,1,0,1 | 2,7,1,4,1 |
| 11. | 0,0,0,7,6 | 0,0,0,6,9 | 1,0,0,0,5 | 0,0,0,3,8 | 0,0,0,1,2 | 0,0,0,4,1 | 0,0,1,7,7 |
| *12. | 0,2,0,9,2 | 0,4,4,6,1 | 0,0,0,5,1 | 0,0,0,5,6 | 0,0,0,2,1 | 0,0,1,4,0 | 2,7,1,4,1 |
| 13. | 0,1,1,6,5 | 0,0,1,12,2 | 0,0,1,1,4 | 0,0,0,6,5 | 2,1,0,0,0, | 0,0,0,3,2 | 0,0,1,7,7 |
| *14. | 1,0,0,6,6 | 0,0,1,8,6 | 0,0,0,1,5 | 0,0,0,1,10 | 0,0,0,0,3 | 0,0,0,1,4 | 0,0,0,8,7 |
| 15. | 0,0,2,5,6 | 0,0,0,8,7 | 0,0,0,1,5 | 0,0,0,3,8 | 0,0,0,2,1 | 0,0,0,1,4 | 0,0,0,7,8 |
| 16. | 0,0,0,5,8 | 0,0,2,7,6 | 0,0,0,1,5 | 0,0,0,2,9 | 0,0,0,2,1 | 0,0,0,4,1 | 0,0,1,7,7 |
| 17. | 0,0,2,9,2 | 0,1,6,7,1 | 0,0,1,1,4 | 0,0,0,3,8 | 0,0,1,0,2 | 0,0,0,3,2 | 0,1,2,9,3 |
| 18. | 0,4,3,6,0 | 3,10,2,0,0 | 1,2,0,2,1 | 4,4,1,2,0 | 0,2,0,1,0 | 0,3,1,1,0 | 0,7,4,3,1 |

* = "Strongly Disagree" was most positive response.

## TABLE 7

## PRETEST SCORES FOR TEACHERS<br>ON<br>CAREER EDUCATION INFORMATION INVENTORY

| School A N=14 | School B N=15 | School C N=6 | School D N=11 | School E N=14 | School F N=11 | School G N=15 |
|---|---|---|---|---|---|---|
| 74 | 63 | 73 | 77 | (78) | (74) | 73 |
| 76 | 68 | 77 | 68 | (75) | (62) | 62 |
| 72 | 52 | 70 | 80 | 75 | (74) | 68 |
| 77 | 56 | 76 | 80 | 79 | 82 | 76 |
| 73 | 67 | 70 | 70 | (75) | 72 | 71 |
| 71 | 64 | 69 | 79 | 74 | 69 | 72 |
| 73 | 68 | | 77 | 69 | (67) | 69 |
| 75 | 68 | | 84 | 71 | (66) | 77 |
| 72 | 61 | | 66 | 59 | 65 | 75 |
| 71 | 81 | | 86 | 67 | 72 | 64 |
| 79 | 70 | | 73 | 72 | 83 | 71 |
| 69 | 66 | | | 71 | | 74 |
| 69 | 74 | | | 82 | | 79 |
| 68 | 73 | | | 82 | | 76 |
| | 77 | | | | | 72 |
| $\overline{X}$ = 72.8 | 67.2 | 72.5 | 76.36 | 73.~~5~~ | 71.45 | 71.93 |

Note: Because of some posttest data collection problems, posttest data could be collected from only those teachers whose scores are in parentheses. The pretest means for these teachers are also indicated by a parentheses.

## TABLE 8

## POSTTEST SCORES FOR TEACHERS ON CAREER EDUCATION INFORMATION INVENTORY

| School A N=13 | School B N=15 | School C N=6 | School D N=11 | School E N=3 | School F N=5 | School G N=15 |
|---|---|---|---|---|---|---|
| 82 | 61 | 76 | 77 | 73 | 77 | 76 |
| 66 | 44 | 81 | 79 | 81 | 64 | 64 |
| 66 | 68 | 82 | 79 | 69 | 79 | 67 |
| 84 | 60 | 83 | 69 |  | 68 | 78 |
| 79 | 64 | 73 | 79 |  | 66 | 67 |
| 72 | 57 | 52 | 74 |  |  | 70 |
| 78 | 65 |  | 67 |  |  | 75 |
| 81 | 61 |  | 79 |  |  | 78 |
| 76 | 60 |  | 67 |  |  | 70 |
| 78 | 71 |  | 82 |  |  | 66 |
| 74 | 68 |  | 80 |  |  | 70 |
| 58 | 71 |  |  |  |  | 78 |
| 63 | 77 |  |  |  |  | 78 |
|  | 58 |  |  |  |  | 71 |
|  | 59 |  |  |  |  | 74 |
| $\bar{X}$ = 73.61 | 62.93 | 74.50 | 75.64 | 74.33 | 70.80 | 72.13 |

## TABLE 9

### U VALUES FOR TEACHERS ON ITEM 1 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 37.0 | .01 | 60.0 | ns |
| A/C | 40.0 | ns | 37.0 | ns |
| A/D | 69.0 | ns | 70.0 | ns |
| A/E | 18.0 | ns | 7.0 | ns |
| A/F | 6.0 | .01 | 14.0 | .05 |
| A/G | 85.0 | ns | 94.0 | ns |
| B/C | 22.0 | .05 | 31.5 | ns |
| B/D | 44.5 | .05 | 52.5 | ns |
| B/E | 9.0 | ns | 14.5 | ns |
| B/F | 26.0 | ns | 28.5 | ns |
| B/G | 56.5 | .025 | 65.0 | .05 |
| C/D | 30.0 | ns | 32.5 | ns |
| C/E | 7.5 | ns | 4.5 | ns |
| C/F | 4.5 | .034 | 8.5 | ns |
| C/G | 36.5 | ns | 43.5 | ns |
| D/E | 16.5 | ns | 7.0 | ns |
| D/F | 8.5 | .025 | 13.5 | ns |
| D/G | 78.0 | ns | 79.0 | ns |
| E/F | 1.5 | .054 | 6.5 | ns |
| E/G | 21.0 | ns | 8.0 | ns |
| F/G | 10.5 | .01 | 16.0 | .05 |
| AB/C | 62.0 | ns | 72.5 | ns |
| AB/D | 129.5 | ns | 125.5 | ns |
| AB/EF | 86.0 | ns | 64.0 | .03 |
| C/EF | 12.0 | ns | 13.0 | ns |
| D/EF | 25.0 | ns | 20.5 | .05 |
| AB/DEF | 275.5 | ns | 246.5 | ns |
| AB/G | 181.5 | ns | 166.0 | ns |
| DEF/G | 121.5 | ns | 110.0 | ns |
| ABCDEF/G | 356.5 | ns | 322.5 | ns |

### TABLE 10

### U VALUES FOR TEACHERS ON ITEM 2 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 45.5 | .01 | 39.5 | .01 |
| A/C | 38.0 | ns | 29.5 | ns |
| A/D | 66.5 | ns | 64.5 | ns |
| A/E | 13.5 | ns | 12.0 | ns |
| A/F | 22.5 | ns | 18.0 | ns |
| A/G | 73.0 | ns | 76.0 | ns |
| B/C | 23.5 | ns | 28.0 | ns |
| B/D | 33.0 | .01 | 25.5 | .01 |
| B/E | 5.0 | .025 | 14.5 | ns |
| B/F | 35.5 | ns | 28.0 | ns |
| B/G | 79.5 | ns | 63.0 | .025 |
| C/D | 25.5 | ns | 21.0 | ns |
| C/E | 5.0 | ns | 7.5 | ns |
| C/F | 5.0 | .041 | 12.0 | ns |
| C/G | 35.5 | ns | 43.5 | ns |
| D/E | 13.5 | ns | 7.5 | ns |
| D/F | 16.0 | ns | 12.0 | .05 |
| D/G | 50.5 | ns | 54.0 | ns |
| E/F | 3.5 | ns | 6.5 | ns |
| E/G | 9.0 | ns | 18.0 | ns |
| F/G | 31.5 | ns | 28.0 | ns |
| AB/C | 69.5 | ns | 76.5 | ns |
| AB/D | 99.5 | .023 | 90.0 | .02 |
| AB/EF | 101.5 | ns | 107.5 | ns |
| C/EF | 24.0 | ns | 19.5 | ns |
| D/EF | 39.5 | ns | 19.5 | .05 |
| AB/DEF | 201.0 | .04 | 206.5 | ns |
| AB/G | 216.5 | ns | 182.0 | ns |
| DEF/G | 103.0 | ns | 128.0 | ns |
| ABCDEF/G | 357.0 | ns | 382.5 | ns |

## TABLE 11

## U VALUES FOR TEACHERS ON ITEM 3 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 105.0 | ns | 48.0 | .025 |
| A/C | 25.5 | ns | 31.0 | ns |
| A/D | 33.0 | .01 | 49.5 | ns |
| A/E | 10.0 | ns | 19.0 | ns |
| A/F | 10.5 | .025 | 27.5 | ns |
| A/G | 104.5 | ns | 67.5 | ns |
| B/C | 25.5 | ns | 30.5 | ns |
| B/D | 30.5 | .01 | 21.5 | .001 |
| B/E | 9.5 | ns | 10.0 | ns |
| B/F | 24.5 | ns | 22.5 | ns |
| B/G | 112.0 | ns | 78.0 | ns |
| C/D | 25.5 | ns | 32.5 | ns |
| C/E | 7.5 | ns | 7.0 | ns |
| C/F | 13.5 | ns | 14.0 | ns |
| C/G | 27.0 | ns | 42.5 | ns |
| D/E | 15.5 | ns | 10.0 | ns |
| D/F | 18.5 | ns | 15.5 | ns |
| D/G | 34.5 | .01 | 29.0 | .01 |
| E/F | 5.5 | ns | 6.0 | ns |
| E/G | 10.5 | ns | 15.0 | ns |
| F/G | 25.5 | ns | 34.0 | ns |
| AB/C | 51.0 | .03 | 77.5 | ns |
| AB/D | 63.5 | .0006 | 71.0 | .003 |
| AB/EF | 68.0 | .02 | 90.0 | ns |
| C/EF | 24.0 | ns | 21.0 | ns |
| D/EF | 34.0 | ns | 20.5 | .05 |
| AB/DEF | 131.5 | .0003 | 161.0 | .008 |
| AB/G | 216.5 | ns | 205.5 | ns |
| DEF/G | 70.5 | .01 | 78.0 | .025 |
| ABCDEF/G | 314.0 | ns | 335.0 | ns |

## TABLE 12

## *U* VALUES FOR TEACHERS ON ITEM 4 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest *U* | Level of Significance | Posttest *U* | Level of Significance |
|---|---|---|---|---|
| A/B | 93.0 | ns | 82.0 | ns |
| A/C | 37.0 | ns | 38.0 | ns |
| A/D | 70.5 | ns | 63.5 | ns |
| A/E | 17.0 | ns | 13.5 | ns |
| A/F | 30.5 | ns | 22.5 | ns |
| A/G | 93.0 | ns | 75.0 | ns |
| B/C | 44.0 | ns | 35.0 | ns |
| B/D | 70.0 | ns | 78.0 | ns |
| B/E | 15.5 | ns | 10.5 | ns |
| B/F | 28.0 | ns | 17.5 | .05 |
| B/G | 112.5 | ns | 101.5 | ns |
| C/D | 27.0 | ns | 14.0 | .05 |
| C/E | 6.0 | ns | 6.0 | ns |
| C/F | 11.0 | ns | 10.0 | ns |
| C/G | 44.0 | ns | 31.0 | ns |
| D/E | 15.5 | ns | 9.0 | ns |
| D/F | 26.5 | ns | 15.0 | ns |
| D/G | 70.0 | ns | 71.0 | ns |
| E/F | 7.0 | ns | 7.5 | ns |
| E/G | 15.5 | ns | 9.0 | ns |
| F/G | 28.0 | ns | 15.0 | .05 |
| AB/C | 83.0 | ns | 73.0 | ns |
| AB/D | 140.5 | ns | 150.5 | ns |
| AB/EF | 91.0 | ns | 64.0 | .01 |
| C/EF | 17.0 | ns | 16.0 | ns |
| D/EF | 41.5 | ns | 19.5 | .05 |
| AB/DEF | 231.5 | ns | 221.5 | ns |
| AB/G | 205.5 | ns | 176.5 | ns |
| DEF/G | 113.5 | ns | 95.0 | ns |
| ABCDEF/G | 363.0 | ns | 302.5 | .05 |

## TABLE 13

## U VALUES FOR TEACHERS ON ITEM 5 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 86.5 | ns | 71.0 | ns |
| A/C | 36.5 | ns | 29.0 | ns |
| A/D | 40.5 | .05 | 55.0 | ns |
| A/E | 14.0 | ns | 9.0 | ns |
| A/F | 25.5 | ns | 20.5 | ns |
| A/G | 85.5 | ns | 81.0 | ns |
| B/C | 42.0 | ns | 19.0 | .025 |
| B/D | 34.0 | .01 | 37.0 | .01 |
| B/E | 12.0 | ns | 3.0 | .01 |
| B/F | 22.0 | ns | 11.5 | .025 |
| B/G | 111.0 | ns | 99.0 | ns |
| C/D | 11.5 | .025 | 28.0 | ns |
| C/E | 4.5 | ns | 6.0 | ns |
| C/F | 8.5 | ns | 13.0 | ns |
| C/G | 41.5 | ns | 23.0 | .05 |
| D/E | 14.0 | ns | 10.5 | ns |
| D/F | 21.5 | ns | 23.0 | ns |
| D/G | 29.5 | .01 | 44.5 | .05 |
| E/F | 7.0 | ns | 6.0 | ns |
| E/G | 11.0 | ns | 4.5 | .025 |
| F/G | 20.5 | ns | 14.5 | .05 |
| AB/C | 84.5 | ns | 48.0 | .04 |
| AB/D | 74.5 | .002 | 92.0 | .02 |
| AB/EF | 73.5 | .04 | 44.0 | .002 |
| C/EF | 13.0 | ns | 19.0 | ns |
| D/EF | 35.5 | ns | 25.5 | ns |
| AB/DEF | 148.0 | .001 | 136.0 | .0009 |
| AB/G | 199.5 | ns | 207.0 | ns |
| DEF/G | 61.0 | .01 | 63.5 | .01 |
| ABCDEF/G | 302.0 | .05 | 293.5 | .04 |

## TABLE 14

## *U* VALUES FOR TEACHERS ON ITEM 6 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest *U* | Level of Significance | Posttest *U* | Level of Significance |
|---|---|---|---|---|
| A/B | 85.0 | ns | 62.0 | ns |
| A/C | 27.0 | ns | 35.5 | ns |
| A/D | 68.5 | ns | 62.5 | ns |
| A/E | 6.0 | .05 | 6.0 | .05 |
| A/F | 15.0 | .05 | 14.5 | .05 |
| A/G | 98.5 | ns | 83.5 | ns |
| B/C | 24.0 | ns | 29.5 | ns |
| B/D | 64.0 | ns | 59.0 | ns |
| B/E | 7.5 | ns | 4.5 | .025 |
| B/F | 15.5 | .05 | 10.0 | .01 |
| B/G | 99.0 | ns | 89.5 | ns |
| C/D | 27.0 | ns | 24.5 | ns |
| C/E | 4.5 | ns | 4.5 | ns |
| C/F | 10.5 | ns | 9.5 | ns |
| C/G | 27.0 | ns | 35.5 | ns |
| D/E | 7.5 | ns | 3.0 | .025 |
| D/F | 16.5 | ns | 8.5 | .025 |
| D/G | 69.0 | ns | 80.5 | ns |
| E/F | 6.0 | ns | 6.0 | ns |
| E/G | 6.0 | .05 | 4.5 | .025 |
| F/G | 15.0 | .05 | 12.5 | .025 |
| AB/C | 51.0 | .05 | 65.0 | ns |
| AB/D | 132.5 | ns | 139.5 | ns |
| AB/EF | 44.0 | .003 | 35.0 | .001 |
| C/EF | 15.0 | ns | 14.0 | ns |
| D/EF | 24.5 | ns | 24.0 | ns |
| AB/DEF | 176.5 | .01 | 174.5 | .02 |
| AB/G | 210.5 | ns | 201.0 | ns |
| DEF/G | 90.0 | .05 | 97.5 | ns |
| ABCDEF/G | 341.5 | ns | 352.0 | ns |

## TABLE 15

## U VALUES FOR TEACHERS ON ITEM 7 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 104.0 | ns | 74.0 | ns |
| A/C | 34.5 | ns | 24.0 | ns |
| A/D | 74.5 | ns | 50.5 | ns |
| A/E | 15.0 | ns | 12.0 | ns |
| A/F | 32.0 | ns | 20.0 | ns |
| A/G | 100.5 | ns | 93.5 | ns |
| B/C | 37.5 | ns | 18.0 | .025 |
| B/D | 80.0 | ns | 40.0 | .025 |
| B/E | 16.5 | ns | 9.0 | ns |
| B/F | 34.5 | ns | 15.0 | .05 |
| B/G | 109.0 | ns | 91.5 | ns |
| C/D | 25.5 | ns | 30.0 | ns |
| C/E | 4.5 | ns | 9.0 | ns |
| C/F | 13.5 | ns | 15.0 | ns |
| C/G | 39.0 | ns | 27.0 | ns |
| D/E | 12.0 | ns | 15.0 | ns |
| D/F | 24.0 | ns | 25.0 | ns |
| D/G | 76.0 | ns | 56.5 | ns |
| E/F | 4.5 | ns | 7.5 | ns |
| E/G | 15.0 | ns | 13.5 | ns |
| F/G | 36.0 | ns | 22.5 | ns |
| AB/C | 72.0 | ns | 42.0 | .01 |
| AB/D | 154.5 | ns | 90.5 | .01 |
| AB/EF | 110.0 | ns | 56.0 | .006 |
| C/EF | 18.0 | ns | 24.0 | ns |
| D/EF | 43.0 | ns | 40.0 | ns |
| AB/DEF | 264.5 | ns | 146.5 | .0007 |
| AB/G | 209.5 | ns | 193.0 | ns |
| DEF/G | 130.0 | ns | 92.5 | .05 |
| ABCDEF/G | 390.5 | ns | 346.5 | ns |

## TABLE 16

## U VALUES FOR TEACHERS ON ITEM 8 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 55.0 | .025 | 44.5 | .01 |
| A/C | 35.0 | ns | 38.5 | ns |
| A/D | 68.0 | ns | 50.0 | ns |
| A/E | 6.0 | .05 | 6.0 | .05 |
| A/F | 10.0 | .01 | 13.0 | .05 |
| A/G | 94.0 | ns | 97.5 | ns |
| B/C | 18.0 | .025 | 25.0 | ns |
| B/D | 51.5 | ns | 49.0 | .05 |
| B/E | 21.5 | ns | 22.0 | ns |
| B/F | 32.5 | ns | 30.5 | ns |
| B/G | 50.5 | .01 | 49.5 | .01 |
| C/D | 22.0 | ns | 21.5 | ns |
| C/E | 0.5 | .018 | 3.5 | ns |
| C/F | 1.0 | .004 | 7.0 | ns |
| C/G | 42.5 | ns | 43.5 | ns |
| D/E | 6.0 | ns | 7.0 | ns |
| D/F | 10.5 | .05 | 15.5 | ns |
| D/G | 62.0 | ns | 51.5 | ns |
| E/F | 7.0 | ns | 6.5 | ns |
| E/G | 3.5 | .025 | 5.5 | .05 |
| F/G | 6.0 | .01 | 14.0 | .025 |
| AB/C | 53.0 | ns | 63.5 | ns |
| AB/D | 137.5 | ns | 142.0 | ns |
| AB/EF | 70.0 | .04 | 71.5 | .05 |
| C/EF | 1.5 | .001 | 10.5 | .05 |
| D/EF | 16.5 | .025 | 22.5 | .05 |
| AB/DEF | 251.5 | ns | 237.5 | ns |
| AB/G | 144.5 | .03 | 147.0 | .05 |
| DEF/G | 71.5 | .01 | 71.0 | .01 |
| ABCDEF/G | 263.5 | .02 | 264.5 | .02 |

## TABLE 17

## *U* VALUES FOR TEACHERS ON ITEM 9 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest *U* | Level of Significance | Posttest *U* | Level of Significance |
|---|---|---|---|---|
| A/B | 104.5 | ns | 41.0 | .01 |
| A/C | 39.0 | ns | 15.0 | .025 |
| A/D | 65.5 | ns | 66.0 | ns |
| A/E | 15.5 | ns | 7.5 | ns |
| A/F | 25.5 | ns | 26.5 | ns |
| A/G | 93.5 | ns | 71.0 | ns |
| B/C | 42.5 | ns | 6.0 | .001 |
| B/D | 71.5 | ns | 37.5 | .025 |
| B/E | 16.5 | ns | 3.0 | .01 |
| B/F | 29.0 | ns | 12.0 | .025 |
| B/G | 87.5 | ns | 89.0 | ns |
| C/D | 25.5 | ns | 18.0 | ns |
| C/E | 2.5 | ns | 9.0 | ns |
| C/F | 11.5 | ns | 8.0 | ns |
| C/G | 37.0 | ns | 15.0 | .01 |
| D/E | 10.5 | ns | 9.0 | ns |
| D/F | 16.0 | ns | 25.5 | ns |
| D/G | 55.5 | ns | 57.5 | ns |
| E/F | 6.0 | ns | 4.0 | ns |
| E/G | 22.5 | ns | 7.5 | ns |
| F/G | 35.5 | ns | 23.0 | ns |
| AB/C | 81.5 | ns | 21.0 | .0008 |
| AB/D | 137.0 | ns | 103.5 | .04 |
| AB/EF | 86.5 | ns | 49.0 | .003 |
| C/EF | 18.0 | ns | 17.0 | ns |
| D/EF | 26.5 | ns | 34.5 | ns |
| AB/DEF | 268.5 | ns | 152.5 | .003 |
| AB/G | 170.5 | ns | 207.0 | ns |
| DEF/G | 113.5 | ns | 88.0 | .05 |
| ABCDEF/G | 321.0 | ns | 310.0 | ns |

## TABLE 18

## U VALUES FOR TEACHERS ON ITEM 10
## OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 85.5 | ns | 32.0 | .001 |
| A/C | 41.5 | ns | 33.5 | ns |
| A/D | 73.5 | ns | 52.5 | ns |
| A/E | 19.0 | ns | 16.0 | ns |
| A/F | 23.5 | ns | 11.5 | .025 |
| A/G | 96.0 | ns | 31.5 | .001 |
| B/C | 35.5 | ns | 31.0 | ns |
| B/D | 64.0 | ns | 49.0 | .05 |
| B/E | 16.0 | ns | 17.0 | ns |
| B/F | 33.5 | ns | 27.5 | ns |
| B/G | 100.5 | ns | 96.5 | ns |
| C/D | 31.5 | ns | 31.5 | ns |
| C/E | 8.0 | ns | 7.5 | ns |
| C/F | 8.5 | ns | 8.0 | ns |
| C/G | 39.5 | ns | 26.0 | ns |
| D/E | 15.5 | ns | 16.0 | ns |
| D/F | 16.5 | ns | 13.5 | ns |
| D/G | 71.0 | ns | 43.5 | .025 |
| E/F | 4.5 | ns | 5.5 | ns |
| E/G | 18.5 | ns | 17.5 | ns |
| F/G | 28.0 | ns | 31.5 | ns |
| AB/C | 77.0 | ns | 75.5 | ns |
| AB/D | 137.5 | ns | 139.5 | ns |
| AB/EF | 109.0 | ns | 83.0 | ns |
| C/EF | 18.5 | ns | 15.5 | ns |
| D/EF | 34.0 | ns | 29.5 | ns |
| AB/DEF | 260.5 | ns | 251.5 | ns |
| AB/G | 214.5 | ns | 128.0 | .01 |
| DEF/G | 136.5 | ns | 104.5 | ns |
| ABCDEF/G | 396.5 | ns | 258.5 | .02 |

## TABLE 19

## *U* VALUES FOR TEACHERS ON ITEM 11 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest *U* | Level of Significance | Posttest *U* | Level of Significance |
|---|---|---|---|---|
| A/B | 91.0 | ns | 84.0 | ns |
| A/C | 19.5 | .05 | 28.0 | ns |
| A/D | 70.5 | ns | 52.5 | ns |
| A/E | 12.0 | ns | 15.5 | ns |
| A/F | 12.5 | .025 | 24.0 | ns |
| A/G | 84.0 | ns | 94.5 | ns |
| B/C | 34.5 | ns | 37.5 | ns |
| B/D | 52.5 | ns | 72.0 | ns |
| B/E | 19.0 | ns | 21.0 | ns |
| B/F | 27.5 | ns | 22.5 | ns |
| B/G | 101.0 | ns | 94.5 | ns |
| C/D | 13.0 | .025 | 31.0 | ns |
| C/E | 8.5 | ns | 8.0 | ns |
| C/F | 15.0 | ns | 7.5 | ns |
| C/G | 29.5 | ns | 32.5 | ns |
| D/E | 8.5 | ns | 15.5 | ns |
| D/F | 7.5 | .025 | 13.0 | ns |
| D/G | 59.5 | ns | 59.5 | ns |
| E/F | 7.5 | ns | 4.0 | ns |
| E/G | 16.5 | ns | 17.5 | ns |
| F/G | 22.5 | ns | 29.5 | ns |
| AB/C | 54.0 | ns | 65.5 | ns |
| AB/D | 123.0 | ns | 124.5 | ns |
| AB/EF | 71.0 | .03 | 94.0 | ns |
| C/EF | 23.5 | ns | 15.5 | ns |
| D/EF | 16.0 | .025 | 28.5 | ns |
| AB/DEF | 267.0 | ns | 254.5 | ns |
| AB/G | 208.0 | ns | 189.0 | ns |
| DEF/G | 140.5 | ns | 122.5 | ns |
| ABCDEF/G | 401.0 | ns | 344.0 | ns |

## TABLE 20

## U VALUES FOR TEACHERS ON ITEM 12 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 101.0 | ns | 63.0 | ns |
| A/C | 22.5 | ns | 33.5 | ns |
| A/D | 38.0 | .025 | 38.5 | .05 |
| A/E | 14.0 | ns | 14.0 | ns |
| A/F | 32.5 | ns | 28.0 | ns |
| A/G | 90.0 | ns | 47.0 | .01 |
| B/C | 28.5 | ns | 20.5 | .05 |
| B/D | 48.0 | .05 | 23.0 | .001 |
| B/E | 17.0 | ns | 8.5 | ns |
| B/F | 27.5 | ns | 25.0 | ns |
| B/G | 94.5 | ns | 78.5 | ns |
| C/D | 30.0 | ns | 20.5 | ns |
| C/E | 7.5 | ns | 7.5 | ns |
| C/F | 7.5 | ns | 10.0 | ns |
| C/G | 21.0 | .05 | 15.5 | .025 |
| D/E | 12.5 | ns | 13.0 | ns |
| D/F | 12.5 | ns | 10.0 | .05 |
| D/G | 35.0 | .01 | 18.0 | .001 |
| E/F | 5.0 | ns | 4.0 | ns |
| E/G | 13.0 | ns | 6.5 | .05 |
| F/G | 30.0 | ns | 17.5 | .05 |
| AB/C | 51.0 | .04 | 54.0 | ns |
| AB/D | 86.0 | .008 | 61.5 | .0009 |
| AB/EF | 101.0 | ns | 84.5 | ns |
| C/EF | 15.0 | ns | 20.5 | ns |
| D/EF | 25.0 | ns | 23.0 | .05 |
| AB/DEF | 187.0 | .02 | 146.0 | .002 |
| AB/G | 184.5 | ns | 125.5 | .01 |
| DEF/G | 78.0 | .025 | 42.0 | .001 |
| ABCDEF/G | 283.5 | .03 | 183.0 | .003 |

## TABLE 21

## U VALUES FOR TEACHERS ON ITEM 13 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 91.0 | ns | 82.5 | ns |
| A/C | 25.0 | ns | 29.5 | ns |
| A/D | 65.0 | ns | 60.5 | ns |
| A/E | 12.0 | ns | 0.5 | .01 |
| A/F | 22.0 | ns | 29.0 | ns |
| A/G | 91.0 | ns | 85.0 | ns |
| B/C | 34.0 | ns | 26.5 | ns |
| B/D | 52.5 | ns | 53.0 | ns |
| B/E | 10.5 | ns | 0.0 | .01 |
| B/F | 29.5 | ns | 26.0 | ns |
| B/G | 112.5 | ns | 77.5 | ns |
| C/D | 11.5 | .025 | 29.0 | ns |
| C/E | 1.5 | .036 | 0.0 | .01 |
| C/F | 14.5 | ns | 17.5 | ns |
| C/G | 34.0 | ns | 39.0 | ns |
| D/E | 13.5 | ns | 0.0 | .01 |
| D/F | 10.5 | .05 | 26.0 | ns |
| D/G | 52.5 | ns | 80.5 | ns |
| E/F | 1.5 | .054 | 0.0 | .02 |
| E/G | 10.5 | ns | 0.0 | .01 |
| F/G | 29.5 | ns | 36.5 | ns |
| AB/C | 59.0 | ns | 56.0 | ns |
| AB/D | 110.5 | .04 | 113.5 | ns |
| AB/EF | 116.0 | ns | 85.5 | ns |
| C/EF | 16.0 | ns | 12.5 | ns |
| D/EF | 30.0 | ns | 26.0 | ns |
| AB/DEF | 226.5 | ns | 252.0 | ns |
| AB/G | 203.5 | ns | 162.5 | ns |
| DEF/G | 108.5 | ns | 121.0 | ns |
| ABCDEF/G | 368.0 | ns | 334.5 | ns |

## TABLE 22

## U VALUES FOR TEACHERS ON ITEM 14 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 93.5 | ns | 93.0 | ns |
| A/C | 36.0 | ns | 24.0 | ns |
| A/D | 63.5 | ns | 39.0 | .05 |
| A/E | 13.5 | ns | 9.0 | ns |
| A/F | 29.5 | ns | 21.0 | ns |
| A/G | 93.5 | ns | 93.0 | ns |
| B/C | 43.5 | ns | 25.0 | ns |
| B/D | 59.0 | ns | 40.0 | .025 |
| B/E | 12.0 | ns | 9.0 | ns |
| B/F | 27.5 | ns | 22.0 | ns |
| B/G | 112.5 | ns | 101.0 | ns |
| C/D | 22.5 | ns | 30.5 | ns |
| C/E | 4.5 | ns | 7.5 | ns |
| C/F | 10.5 | ns | 14.5 | ns |
| C/G | 43.5 | ns | 28.5 | ns |
| D/E | 13.5 | ns | 15.0 | ns |
| D/F | 27.0 | ns | 24.5 | ns |
| D/G | 59.0 | ns | 46.0 | .05 |
| E/F | 6.0 | ns | 6.0 | ns |
| E/G | 12.0 | ns | 10.5 | ns |
| F/G | 27.5 | ns | 25.0 | ns |
| AB/C | 79.5 | ns | 49.0 | .04 |
| AB/D | 122.5 | ns | 79.0 | .004 |
| AB/EF | 82.5 | ns | 61.0 | .01 |
| C/EF | 15.0 | ns | 23.0 | ns |
| D/EF | 41.5 | ns | 42.5 | ns |
| AB/DEF | 205.0 | .03 | 140.0 | .0007 |
| AB/G | 206.0 | ns | 194.0 | ns |
| DEF/G | 98.5 | ns | 81.5 | .025 |
| ABCDEF/G | 351.0 | ns | 336.0 | ns |

### TABLE 23

### U VALUES FOR TEACHERS ON ITEM 15 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 102.0 | ns | 89.0 | ns |
| A/C | 32.0 | ns | 23.5 | ns |
| A/D | 58.0 | ns | 49.5 | ns |
| A/E | 19.0 | ns | 19.0 | ns |
| A/F | 34.0 | ns | 20.5 | ns |
| A/G | 101.0 | ns | 83.5 | ns |
| B/C | 33.0 | ns | 28.5 | ns |
| B/D | 64.5 | ns | 61.0 | ns |
| B/E | 21.0 | ns | 19.5 | ns |
| B/F | 37.5 | ns | 25.0 | ns |
| B/G | 105.0 | ns | 105.0 | ns |
| C/D | 17.0 | ns | 29.5 | ns |
| C/E | 6.0 | ns | 4.5 | ns |
| C/F | 11.0 | ns | 14.5 | ns |
| C/G | 36.0 | ns | 31.5 | ns |
| D/E | 14.0 | ns | 10.0 | ns |
| D/F | 21.5 | ns | 25.5 | ns |
| D/G | 59.0 | ns | 66.5 | ns |
| E/F | 7.0 | ns | 4.0 | ns |
| E/G | 19.5 | ns | 18.0 | ns |
| F/G | 35.0 | ns | 27.5 | ns |
| AB/C | 65.0 | ns | 52.0 | .05 |
| AB/D | 122.5 | ns | 110.5 | ns |
| AB/EF | 111.5 | ns | 91.0 | ns |
| C/EF | 17.0 | ns | 19.0 | ns |
| D/EF | 35.5 | ns | 39.5 | ns |
| AB/DEF | 234.0 | ns | 201.5 | ns |
| AB/G | 206.0 | ns | 188.5 | ns |
| DEF/G | 113.5 | ns | 121.0 | ns |
| ABCDEF/G | 373.5 | ns | 384.0 | ns |

## TABLE 24

## *U* VALUES FOR TEACHERS ON ITEM 16 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest *U* | Level of Significance | Posttest *U* | Level of Significance |
|---|---|---|---|---|
| A/B | 101.5 | ns | 71.5 | ns |
| A/C | 31.0 | ns | 30.5 | ns |
| A/D | 52.5 | ns | 57.0 | ns |
| A/E | 20.0 | ns | 14.0 | ns |
| A/F | 29.0 | ns | 19.0 | ns |
| A/G | 101.0 | ns | 80.5 | ns |
| B/C | 35.0 | ns | 24.5 | ns |
| B/D | 52.5 | ns | 46.0 | .05 |
| B/E | 20.5 | ns | 22.0 | ns |
| B/F | 29.5 | ns | 34.0 | ns |
| B/G | 112.0 | ns | 101.5 | ns |
| C/D | 31.0 | ns | 32.5 | ns |
| C/E | 6.0 | ns | 4.5 | ns |
| C/F | 8.0 | ns | 5.5 | .05 |
| C/G | 35.0 | ns | 28.0 | ns |
| D/E | 10.0 | ns | 8.5 | ns |
| D/F | 13.0 | ns | 10.5 | .05 |
| D/G | 59.5 | ns | 52.5 | ns |
| E/F | 6.5 | ns | 6.5 | ns |
| E/G | 20.5 | ns | 20.5 | ns |
| F/G | 29.5 | ns | 29.5 | ns |
| AB/C | 66.0 | ns | 55.0 | ns |
| AB/D | 112.0 | .05 | 103.0 | .04 |
| AB/EF | 99.0 | ns | 90.0 | ns |
| C/EF | 14.0 | ns | 10.0 | .04 |
| D/EF | 23.0 | .05 | 19.0 | .025 |
| AB/DEF | 245.0 | ns | 237.0 | ns |
| AB/G | 213.0 | ns | 204.0 | ns |
| DEF/G | 129.5 | ns | 122.5 | ns |
| ABCDEF/G | 386.5 | ns | 354.5 | ns |

## TABLE 25

## U VALUES FOR TEACHERS ON ITEM 17 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 95.0 | ns | 63.5 | ns |
| A/C | 39.5 | ns | 22.5 | ns |
| A/D | 46.5 | ns | 27.5 | .01 |
| A/E | 15.5 | ns | 14.0 | ns |
| A/F | 28.5 | ns | 21.5 | ns |
| A/G | 100.0 | ns | 96.5 | ns |
| B/C | 44.0 | ns | 17.5 | .025 |
| B/D | 44.0 | .025 | 17.5 | .001 |
| B/E | 15.5 | ns | 12.0 | ns |
| B/F | 34.5 | ns | 14.5 | .05 |
| B/G | 107.0 | ns | 78.5 | ns |
| C/D | 18.0 | ns | 29.5 | ns |
| C/E | 6.0 | ns | 8.5 | ns |
| C/F | 13.5 | ns | 12.5 | ns |
| C/G | 44.0 | ns | 26.5 | ns |
| D/E | 16.0 | ns | 14.0 | ns |
| D/F | 13.0 | ns | 18.5 | ns |
| D/G | 46.5 | .05 | 34.5 | .01 |
| E/F | 5.0 | ns | 7.0 | ns |
| E/G | 16.0 | ns | 16.0 | ns |
| F/G | 32.5 | ns | 25.5 | ns |
| AB/C | 85.5 | ns | 40.0 | .02 |
| AB/D | 90.5 | .01 | 45.0 | .0001 |
| AB/EF | 113.0 | ns | 62.0 | .02 |
| C/EF | 22.5 | ns | 21.0 | ns |
| D/EF | 29.0 | ns | 32.5 | ns |
| AB/DEF | 203.5 | .05 | 107.0 | .0001 |
| AB/G | 217.0 | ns | 177.0 | ns |
| DEF/G | 105.0 | ns | 76.0 | .025 |
| ABCDEF/G | 369.0 | ns | 345.5 | ns |

## TABLE 26

## *U* VALUES FOR TEACHERS ON ITEM 18 OF THE CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest *U* | Level of Significance | Posttest *U* | Level of Significance |
|---|---|---|---|---|
| A/B | 89.5 | ns | 31.0 | .001 |
| A/C | 33.0 | ns | 37.0 | ns |
| A/D | 54.5 | ns | 33.5 | .026 |
| A/E | 21.0 | ns | 14.0 | ns |
| A/F | 26.5 | ns | 21.5 | ns |
| A/G | 94.5 | ns | 79.0 | ns |
| B/C | 39.5 | ns | 27.5 | ns |
| B/D | 66.5 | ns | 82.0 | ns |
| B/E | 13.0 | ns | 14.0 | ns |
| B/F | 32.5 | ns | 22.0 | ns |
| B/G | 82.0 | ns | 53.0 | .01 |
| C/D | 29.0 | ns | 21.0 | ns |
| C/E | 7.0 | ns | 8.0 | ns |
| C/F | 14.5 | ns | 13.0 | ns |
| C/G | 28.5 | ns | 43.5 | ns |
| D/E | 11.0 | ns | 11.0 | ns |
| D/F | 25.0 | ns | 18.5 | ns |
| D/G | 48.0 | .05 | 48.0 | .05 |
| E/F | 5.5 | ns | 7.5 | ns |
| E/G | 19.5 | ns | 19.5 | ns |
| F/G | 23.0 | ns | 32.0 | ns |
| AB/C | 72.5 | ns | 68.5 | ns |
| AB/D | 121.0 | ns | 115.5 | ns |
| AB/EF | 105.5 | ns | 104.5 | ns |
| C/EF | 22.5 | ns | 21.0 | ns |
| D/EF | 36.0 | ns | 29.5 | ns |
| AB/DEF | 226.5 | ns | 235.0 | ns |
| AB/G | 176.5 | ns | 169.0 | ns |
| DEF/G | 90.5 | .05 | 99.5 | ns |
| ABCDEF/G | 295.5 | .05 | 315.0 | ns |

## TABLE 27

## U SCORES ON TOTAL SCORES RECEIVED BY TEACHERS ON CAREER EDUCATION INFORMATION INVENTORY

| Comparisons | Pretest U | Level of Significance | Posttest U | Level of Significance |
|---|---|---|---|---|
| A/B | 48.5 | .01 | 32.5 | .01 |
| A/C | 40.0 | ns | 32.5 | ns |
| A/D | 48.0 | ns | 59.0 | ns |
| A/E | 8.0 | ns | 19.5 | ns |
| A/F | 19.0 | ns | 25.5 | ns |
| A/G | 99.5 | ns | 79.0 | ns |
| B/C | 21.0 | .05 | 16.0 | .025 |
| B/D | 30.0 | .01 | 14.5 | .001 |
| B/E | 5.0 | .025 | 4.0 | .025 |
| B/F | 35.0 | ns | 16.0 | .05 |
| B/G | 64.5 | .05 | 35.5 | .001 |
| C/D | 19.5 | ns | 27.5 | ns |
| C/E | 4.0 | ns | 1.5 | .036 |
| C/F | 8.0 | ns | 9.0 | ns |
| C/G | 44.5 | ns | 26.5 | ns |
| D/E | 14.0 | ns | 15.5 | ns |
| D/F | 9.5 | .05 | 13.5 | ns |
| D/G | 46.5 | .05 | 45.5 | .05 |
| E/F | 0.0 | .02 | 4.0 | ns |
| E/G | 10.0 | ns | 18.0 | ns |
| F/G | 23.5 | ns | 32.0 | ns |
| AB/C | 65.0 | ns | 48.5 | ns |
| AB/D | 78.0 | .007 | 73.5 | .006 |
| AB/EF | 99.0 | ns | 79.0 | ns |
| C/EF | 22.0 | ns | 15.0 | ns |
| D/EF | 23.5 | ns | 29.0 | ns |
| AB/DEF | 177.0 | .02 | 152.5 | .007 |
| AB/G | 175.0 | ns | 151.5 | ns |
| DEF/G | 108.0 | ns | 106.5 | ns |
| ABCDEF/G | 397.5 | ns | 393.5 | ns |

When each item on the "Career Education Information Inventory" was analyzed, some significant differences occurred. Since 30 comparisons were made on each item, only the most noticeable differences will be discussed. Those items on which the number of significant differences from pretest to posttest changed by six or more will be examined. Eight items fell in this category: Items 4, 7, 9, 10, 11, 12, 14, and 17. Five of these eight, Items 4, 7, 9, 10, and 14, had no significant differences on the pretest but had six or more on the posttest. One item, Item 11, had six significant differences on the pretest but none on the posttest.

> Item 4: Career education for girls should center on secretarial skills, nursing, and teaching.
>
> All schools, except A, increased or stayed the same. Schools C, E, and F increased the most and thus accounted for the following significant posttest differences: B/F, C/D, F/G, AB/EF, D/EF, and ABCDEF/G. When significant differences occurred, it was because respondents were indicating more openness toward the types of occupations girls can enter.
>
> Item 7: Career education should be concerned with developing a positive self-image for each student.
>
> The significant differences for this item were caused by the fact that Schools C, D, E, and F changed from "Agree" on the pretest to "Strongly Agree" on the posttest. (Ninety-six per cent of the total C, D, E, and F responses were marked "Strongly Agree.") In School B, while there was a decrease of five respondents in the "Strongly Agree" category, there was an offsetting increase of respondents in the "Disagree" and "Strongly Disagree" categories. Significant posttest differences occurred between: B/C, B/D, B/F, AB/C, AB/D, AB/DEF, and AB/EF. Schools that had had inservice all increased in their belief that career education should be concerned with developing a positive self-image.
>
> Item 9: Learning how to cope with work-related situations should be the organizing center for the elementary school curriculum.
>
> All schools increased or stayed the same except for School B and this accounted for the following significant posttest differences: A/B, A/C, B/C, B/D, B/E, B/F, C/G, AB/C, AB/D, AB/EF, AB/DEF, and DEF/G. It should be noted that there were no significant differences on pretest scores.
>
> Item 10: The type of lifestyle one chooses to lead should not be dealt with in an elementary school curriculum.
>
> The significant differences on this item can be largely attributed to the increase recorded by School A. Other schools stayed about

the same. This is an interesting finding because the question deals with lifestyle and School A represents a melting pot of socio-economic backgrounds. The following significant posttest differences occurred: A/B, A/F, A/G, B/D, D/G, AB/G, and ABCDEF/G.

Item 11: The choice of an occupation or profession is one of the most important decisions a person makes in his lifetime.

The significant differences on this item occurred on the pretest. Schools evened out on the posttest and thus there were no significant differences on the posttest. However, A and B were more positive than E and F. Significant pretest differences occurred among: A/C, A/F, C/D, D/F, AB/EF, and D/EF.

Item 12: Students presently have sufficient orientation to the possibilities in the world of work to make sound career decisions.

There were so many significant differences that no discernable patterns could be ascertained. Apparently some of the differences that occurred on the posttest and did not occur on the pretest were caused by a drop in the control group.

Item 14: Career education should be only for those students who are not able to succeed in an academic program.

Schools A and B went down slightly; School C went up; and Schools D, E, and F stayed about the same. These changes caused the following posttest significant differences: A/D, B/D, D/G, AB/C, AB/D, AB/EF, AB/DEF, and DEF/G.

Item 17: "Hands-on" experiences are essential to a good career education program.

All schools, except for B, increased or stayed about the same. School B decreased and accounted for many of the following significant posttest differences: A/D, B/C, B/D, B/F, D/G, AB/C, AB/D, AB/EF, AB/DEF, and DEF/G.

There is one finding which seemed to surface when the 30 comparisons on total test scores were made: (1) Ten significant differences occurred on pretest comparisons and seven of the ten significant differences involved School B. (2) Ten significant differences occurred on posttest comparisons and eight of the ten significant differences involved School B.

An examination of Tables 7 and 8 reveals the following additional information:

> The pretest mean score for School B teachers was the lowest of the six schools and declined 4.27 on the posttest.

This would seem to indicate that a readiness to accept career education should be present or should be developed for any school system that wishes to inaugurate career education programs. Unless this condition is present, most materials will be placed at a disadvantage.

Another interesting finding is that teachers who had had no prior inservice training in career education (Schools A and B) differed significantly from teachers who had at least 36 clock hours of inservice education (Schools D, E, and F) on pretest and posttest scores. The mean pretest score for Schools A and B was 69.90 and the mean pretest score for Schools D, E, and F was 74.26. The teachers who had had at least 36 clock hours of inservice training in career education had more positive attitudes about career education on the pretest. The mean posttest score for Schools A and B was 67.89 and for Schools D, E, and F the mean posttest score was 74.16. Again, those who had had inservice possessed more positive attitudes toward career education.

Other findings are also apparent. School D differed significantly with School F--a school that had had a comparable amount of inservice training (36 clock hours). However, School D did not differ significantly with School E and both Schools D and E had had comparable inservice training. School D also differed significantly with the control school. When School D was compared to A, the two schools did not differ; when School D was compared to School B, the schools differed. When Schools A and B were compared with School D, there was a difference. Therefore, School B seems to be accounting for the significant difference when the combined scores for Schools A and B are compared with School D. School D scored the highest on the inventory, so the finding that School A does not differ from School D but School B does is important. Both Schools A and B had not had inservice training so attitudes about career education may not be solely dependent upon inservice training.

## Student Learning Gain

At the prime testing site data was gathered which could be subjected to statistical analysis. The data was gathered by means of structured interviews. The findings are presented in the following format:

1. The hypotheses being analyzed are presented.
2. The raw data which relate to the hypotheses are presented.
3. Chi square values which relate to the hypotheses are presented.
4. An analysis of the findings is presented.

$H_7$ There is no significant difference in the number of jobs (classified by USOE cluster) named by K-6 students who used ETC materials and the control group as measured by pretest and posttest interviews.

$H_8$ There is no significant difference in the total number of jobs named by K-6 students who used ETC materials and the control group as measured by pretest and posttest interviews.

TABLE 28

Jobs Named by Random Sample of K-6 Grade Students and Classified by USOE Cluster

| | School A | | School B | | Schools A & B | | School G | |
|---|---|---|---|---|---|---|---|---|
| | Pre-test N=20 | Post-test N=17 | Pre-test N=18 | Post-test N=18 | Pre-test N=38 | Post-test N=35 | Pre-test N=15 | Post-test N=15 |
| Agri-Business and Natural Resources | 2 | 1 | 2 | 3 | 4 | 4 | 2 | 2 |
| Business and Office | 6 | 9 | 10 | 14 | 16 | 23 | 5 | 4 |
| Communications and Media | 1 | 2 | 0 | 3 | 1 | 5 | 1 | 1 |
| Construction | 9 | 5 | 11 | 12 | 20 | 17 | 8 | 9 |
| Consumer and Homemaking | 7 | 10 | 10 | 14 | 17 | 24 | 6 | 8 |
| Environmental Control | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Fine Arts and Humanities | 2 | 0 | 6 | 1 | 8 | 1 | 2 | 2 |
| Health | 10 | 18 | 10 | 21 | 20 | 39 | 10 | 8 |
| Hospitality and Recreation | 9 | 9 | 10 | 11 | 19 | 20 | 5 | 5 |
| Manufacturing | 7 | 5 | 3 | 5 | 10 | 10 | 4 | 5 |
| Marine Science | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| Marketing and Distribution | 24 | 8 | 6 | 7 | 30 | 15 | 11 | 12 |
| Personal Services | 13 | 10 | 12 | 17 | 25 | 27 | 9 | 8 |
| Public Services | 38 | 43 | 41 | 51 | 79 | 94 | 29 | 31 |
| Transportation | 21 | 12 | 5 | 8 | 26 | 20 | 9 | 9 |
| Total | 151 | 133 | 126 | 168 | 277 | 301 | 93 | 105 |

## TABLE 29

## CHI SQUARE VALUES FOR $H_7$ DATA
## (2 X 3 COMPARISON OF GROUPS A-B-G)

| USOE Cluster | Chi Square Values |
|---|---|
| AN, Agri-Business and Natural Resources | 0.5333 |
| BO, Business and Office | 0.6377 |
| CM, Communications and Media | 1.7778 |
| CN, Construction | 1.1727 |
| CH, Consumer and Homemaking | 0.0093 |
| EC, Environmental Control | 0.0 |
| FH, Fine Arts and Humanities | 2.5381 |
| HH, Health | 2.7941* |
| HR, Hospitality and Recreation | 0.0272 |
| MG, Manufacturing | 0.9110 |
| MS, Marine Science | 3.0000 |
| MD, Marketing and Distribution | 5.4699** |
| PE, Personal Services | 1.2980 |
| PU, Public Services | 0.2231 |
| TR, Transportation | 2.6073 |

df = 2
* = Sig. at .20 level
** = Sig. at .02 level

## TABLE 30

## CHI SQUARE VALUES FOR $H_7$ DATA
## (2 X 2 COMPARISON OF GROUPS A + B AND G)

| USOE Cluster | Chi Square Values |
|---|---|
| AN, Agri-Business and Natural Resources | 0.3750 |
| BO, Business and Office | 0.1758 |
| CM, Communications and Media | 0.0 |
| CN, Construction | 0.0341 |
| CH, Consumer and Homemaking | 0.0495 |
| EC, Environmental Control | 1.0000 |
| FH, Fine Arts and Humanities | 0.6771 |
| HH, Health | 1.8858* |
| HR, Hospitality and Recreation | 0.0796 |
| MG, Manufacturing | 0.0155 |
| MS, Marine Science | 0.1875 |
| MD, Marketing and Distribution | 1.5384 |
| PE, Personal Services | 0.0047 |
| PU, Public Services | 0.0428 |
| TR, Transportation | 0.0369 |

df = 1
* = Sig. at .20 level

## TABLE 31

## CHI SQUARE VALUES FOR $H_8$ DATA

| Comparisons | df | Chi Square Values |
|---|---|---|
| A - B - G | 2 | 6.2114** |
| A + B - G | 1 | 0.0224 |

**Sig. at .02 level

Summary. When Groups A, B, and G were compared, there was a significant decline in the number of times that students named an occupation which could be classified in the Marketing and Distribution cluster and there was a significant increase in the number of times that students named an occupation which could be classified in the Health cluster. Many variables (more emphasis placed on health care because of Dental Health Week, new sex education program, etc.) could have caused this happening to occur. Therefore, no conclusions can be drawn. From the raw data it is easy to observe that pretest data revealed that there were three occupational clusters which were represented only once in occupations named by children: Communications and Media, Environmental Control, and Marine Science. It should be noted that the number of occupations increased in the Communications and Media cluster but stayed the same in Environmental Control and Marine Science. ETC materials included activities related to Environmental Control and Marine Science. However, children did not name occupations related to these clusters. This is particularly interesting in view of the fact that the A and B groups are located in a school system that borders Lake Michigan.

When Schools A, B, and G (control) were compared on the total number of jobs named, there was a significant difference at the .02 level. This significance can be attributed to the fact that in School A students named 18 less occupations in the posttest interviews than in the pretest interviews and School B students named 42 more occupations in posttest interviews than in the pretest interviews. The large increase by School B students was significantly better than the control group but the decline by Group A students was not particularly significant.

$H_9$ There is no significant difference in the mean number of different responses given to the question, "If you decided you wanted to find out something about a (interviewer names one of the occupations previously listed by the child), how would you go about finding out what a _______ does?" by students who used ETC materials and the control group as measured by pretest and posttest interviews.

## TABLE 32

## RESPONSES BY RANDOM SAMPLES OF K-6 STUDENTS TO QUESTION,

"If you decided you wanted to find out something about a (interviewer named an occupation previously listed by the child), how would you go about finding out what a __________ does?"

| | School A | | | School B | | | Schools A + B | | | Control | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | Total | Mean | N | Total | Mean | N | Total | Mean | N | Total | Mean |
| Pretest | 21 | 30 | 1.4 | 18 | 24 | 1.3 | 39 | 54 | 1.4 | 22 | 34 | 1.5 |
| Posttest | 21 | 33 | 1.6 | 18 | 47 | 2.6 | 39 | 80 | 2.1 | 22 | 33 | 1.5 |

## TABLE 33

## CHI SQUARE VALUE FOR $H_9$ DATA

| Comparison | Chi Square Value |
|---|---|
| A - B - G | 0.1463 |

df = 2

Summary. Raw data reveals that students did increase in the number of ways they would go about finding what a ________ does. However, the difference was not significant.

$H_{10}$ There is no significant difference in responses given to the question, "Do you think you could learn to be a __________?" by students who used ETC materials and the control group as measured by pretest and posttest interviews.

## TABLE 34

## RESPONSES BY RANDOM SAMPLES OF K-6 STUDENTS WHO ANSWERED "YES" TO QUESTION,

"Do you think you could learn to be a __________?" (Interviewer named an occupation previously listed by the child.)

| | School A | | School B | | Schools A + B | | Control | |
|---|---|---|---|---|---|---|---|---|
| | N | Total | N | Total | N | Total | N | Total |
| Pretest | 21 | 18 | 18 | 17 | 39 | 35 | 22 | 20 |
| Posttest | 21 | 19 | 18 | 17 | 39 | 36 | 22 | 19 |

## TABLE 35

## CHI SQUARE VALUE FOR $H_{10}$ DATA

| Comparison | Chi Square Value |
|---|---|
| A + B - G | 0.0 |

df = 1

_Summary_. There was no room for significant differences to occur. The high number of affirmative answers given by students on the pretest (35 of the 39 A + B students responded "yes" on the pretest) simply was not conducive for significant differences to occur when the posttest data revealed that 36 of the 39 A + B students answered "yes." However, what is important is that the self-confidence exhibited by children in stating that they believed they could become a __________ did not decline.

$H_{11}$ There is no significant difference in total number of different reasons given in response to the question, "Why do people work?" by students who used ETC materials and the control group as measured by pretest and posttest interviews.

## TABLE 36

## NUMBER OF DIFFERENT REASONS GIVEN BY RANDOM SAMPLES OF K-6 STUDENTS IN RESPONSE TO QUESTION,

"Why do people work?"

| | School A | | School B | | Schools A + B | | Control | |
|---|---|---|---|---|---|---|---|---|
| | N | Total | N | Total | N | Total | N | Total |
| Pretest | 21 | 2 | 18 | 4 | 39 | 4 | 22 | 2 |
| Posttest | 21 | 1 | 18 | 8 | 39 | 8 | 22 | 2 |

## TABLE 37

## CHI SQUARE VALUES FOR $H_{11}$ DATA

| Comparisons | Chi Square Values |
|---|---|
| A and B | 0.1563 |
| A and G | 0.1094 |
| B and G | 0.0 |
| A + B and G | 0.0 |

df = 1

Summary. The chi square values simply do not reveal some very important findings. Because the data involved such small numbers, great extremes in data were needed in order for the chi square values to be significant. However, the data must be examined from a relative point of view. Examination of the raw data for the total N of A + B students revealed that on the pretest interviews students were able to name four different reasons why people work. However, on posttest interviews the students named eight different reasons why people work--double the pretest figure! It should be noted that on the pretest interviews the following reasons were given: (1) to earn money, (2) so you can help people, (3) to do something you like, and (4) to keep things clean and shiny. On the posttest interviews the following reasons were given: (1) to earn money, (2) so you can help people, (3) to do something you like, (4) if there wasn't work to do people would sit around and watch television or sleep, (5) to be nice, (6) to know what other people do. (7) to have personal contact with people, and (8) you have more responsibility than at home.

The reasons listed by children in the posttest interviews had increased in variety. The interviewers also noted that children were better able to verbalize their thoughts about why people work. The reasons given by children in the posttest interviews were aimed directly at some of the concepts that are included in the ETC materials. This is an important finding in that the materials appear to be helping children gain a broader perspective on why people work.

$H_{12}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman? Both?" between K-6 female and male students who used ETC materials as measured by pretest and posttest interviews.

$H_{13}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman? Both?" between K-6 female and male control group students as measured by pretest and posttest interviews.

$H_{14}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman? Both?" between K-6 female students who used ETC materials and female control group students as measured by pretest and posttest interviews.

$H_{15}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman? Both?" between K-6 male students who used ETC materials and male control group students as measured by pretest and posttest interviews.

$H_{16}$ There is no significant difference in responses given to the question, "Who do you think should be a nurse? Man? Woman? Both?" between the total N of students who used ETC materials and the total N of control group students as measured by pretest and posttest interviews.

TABLE 38

RESPONSES BY RANDOM SAMPLES OF K-6 STUDENTS
TO QUESTION,

"Who do you think should be a nurse? Man? Woman? Both?"

| | School A | | School B | | Schools A + B | | Control | |
|---|---|---|---|---|---|---|---|---|
| Response | Girls N=11 | Boys N=10 | Girls N=10 | Boys N=8 | Girls N=21 | Boys N=18 | Girls N=11 | Boys N=11 |
| Man | | | | | | | | |
| Pretest | -- | -- | -- | -- | -- | -- | -- | -- |
| Posttest | -- | -- | -- | -- | -- | -- | -- | -- |
| Woman | | | | | | | | |
| Pretest | 2 | 4 | 7 | 7 | 9 | 11 | 3 | 4 |
| Posttest | 1 | 4 | 4 | 4 | 5 | 8 | 3 | 5 |
| Both | | | | | | | | |
| Pretest | 9 | 6 | 3 | 1 | 12 | 7 | 8 | 7 |
| Posttest | 10 | 6 | 6 | 4 | 16 | 10 | 8 | 6 |

TABLE 39

CHI SQUARE VALUES FOR $H_{12}$ - $H_{16}$
(ON "WOMAN" VS. "BOTH" CHOICE)

| Comparisons | Chi Square Values |
|---|---|
| A + B Males and A + B Females ($H_{12}$) | 0.0001 |
| G Males and G Females ($H_{13}$) | 0.1004 |
| A + B Females and G Females ($H_{14}$) | 0.0099 |
| A + B Males and G Males ($H_{15}$) | 0.0680 |
| A + B Total N and G Total N ($H_{16}$) | 0.3463 |

df = 1

Summary. Again, because the data involved small numbers great extremes in data were needed in order for the chi square values to be significant. It should be noted, however, that in the raw data where changes did occur, these changes were in the direction of lessening sex role stereotyping. On posttest interviews more students indicated that both men and women should be nurses than indicated this preference on pretest interviews. It is the intent of ETC materials to help students remove sex role stereotyping of occupational areas, so this finding is an important one.

$H_{17}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between K-6 female and male students who used ETC materials as measured by pretest and posttest interviews.

$H_{18}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between K-6 female and male control group students as measured by pretest and posttest interviews.

$H_{19}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between K-6 female students who used ETC materials and female control group students as measured by pretest and posttest interviews.

$H_{20}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between K-6 male students who used ETC materials and male control group students as measured by pretest and posttest interviews.

$H_{21}$ There is no significant difference in responses given to the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" between the total N of students who used ETC materials and the total N of control group students as measured by pretest and posttest interviews.

TABLE 40

RESPONSES BY RANDOM SAMPLES OF K-6 STUDENTS
TO QUESTION,

"Who do you think should be an airplane pilot? Man? Woman? Both?"

| | School A | | School B | | Schools A + B | | Control | |
|---|---|---|---|---|---|---|---|---|
| Response | Girls N=11 | Boys N=10 | Girls N=10 | Boys N=8 | Girls N=21 | Boys N=18 | Girls N=11 | Boys N=11 |
| Man | | | | | | | | |
| Pretest | 8 | 5 | 6 | 4 | 14 | 9 | 8 | 7 |
| Posttest | 6 | 6 | 7 | 2 | 13 | 8 | 8 | 6 |
| Woman | | | | | | | | |
| Pretest | -- | -- | -- | -- | -- | -- | -- | -- |
| Posttest | -- | -- | -- | -- | -- | -- | -- | -- |
| Both | | | | | | | | |
| Pretest | 3 | 5 | 4 | 4 | 7 | 9 | 3 | 4 |
| Posttest | 5 | 4 | 3 | 6 | 8 | 10 | 3 | 5 |

TABLE 41

CHI SQUARE VALUES FOR $H_{17}$ - $H_{21}$
(ON "MAN" VS."BOTH" CHOICE)

| Comparisons | Chi Square Values |
|---|---|
| A + B Males and A + B Females ($H_{17}$) | 0.0574 |
| G Males and G Females ($H_{18}$) | 0.0281 |
| A + B Females and G Females ($H_{19}$) | 0.0393 |
| A + B Males and G Males ($H_{20}$) | 0.1024 |
| A + B Total N and G Total N ($H_{21}$) | 0.0374 |

df = 1

Summary. Again, because the data involved small numbers, great extremes in data were needed in order for the chi square values to be significant. The total N of A + B girls and the total N of A + B boys indicate that any changes which occurred were in the direction of lessening sex role stereotyping. However, the changes were very slight.

$H_{22}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between K-6 female and male students who used ETC materials as measured by pretest and posttest interviews.

$H_{23}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between K-6 female and male control group students as measured by pretest and posttest interviews.

$H_{24}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between K-6 female students who used ETC materials and female control group students as measured by pretest and posttest interviews.

$H_{25}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between K-6 male students who used ETC materials and male control group students as measured by pretest and posttest interviews.

$H_{26}$ There is no significant difference in responses given to the question, "Who do you think should be a teacher? Man? Woman? Both?" between the total N of students who used ETC materials and the total N of control group students as measured by pretest and posttest interviews.

TABLE 42

RESPONSES BY RANDOM SAMPLES OF K-6 STUDENTS TO QUESTION,

"Who do you think should be a teacher? Man? Woman? Both?"

| | School A | | School B | | Schools A + B | | Control | |
|---|---|---|---|---|---|---|---|---|
| Response | Girls N=11 | Boys N=10 | Girls N=10 | Boys N=8 | Girls N=21 | Boys N=18 | Girls N=11 | Boys N=11 |
| Man | | | | | | | | |
| Pretest | -- | -- | -- | -- | -- | -- | -- | -- |
| Posttest | -- | -- | -- | 1 | -- | 1 | -- | -- |
| Woman | | | | | | | | |
| Pretest | 1 | -- | 1 | 1 | 2 | 1 | 1 | 1 |
| Posttest | -- | -- | 1 | 1 | 1 | 1 | 1 | -- |
| Both | | | | | | | | |
| Pretest | 10 | 10 | 9 | 7 | 19 | 17 | 10 | 11 |
| Posttest | 11 | 10 | 9 | 6 | 20 | 16 | 10 | 11 |

## TABLE 43

## CHI SQUARE VALUES FOR $H_{22}$ - $H_{26}$

| Comparisons | Chi Square Values |
|---|---|
| A + B Males and A + B Females ($H_{22}$) | 0.0 |
| G Males and G Females ($H_{23}$) | 0.0955 |
| A + B Females and G Females ($H_{24}$) | 0.0331 |
| A + B Males and G Males ($H_{25}$) | 0.0273 |
| A + B Total N and G Total N ($H_{26}$) | 0.0377 |

df = 1

Summary. No significant differences could be expected for this hypothesis since such high numbers of student responses fell in the "both" category on both the pretest and the posttest interviews. An important finding, however, is that evidently the ETC materials are not causing new sex stereotyping biases to occur.

Perhaps, after all the data is compiled, one of the best types of evaluations is an unsolicited letter which was received from one of the field testing sites. Curriculum development work is in vain if schools do not use the materials. The letter on the following page indicated how individuals at one school system view the ETC materials.

SCHOOL DISTRICT NO. 60
IN THE COUNTY OF PUEBLO AND STATE OF COLORADO
ADMINISTRATION BUILDING, 102 W. ORMAN AVE.
PUEBLO, COLORADO 81004

DEPARTMENT OF INSTRUCTION

May 3, 1974

Dr. Marla Peterson, Director
ETC Project
Buzzard Laboratory School
Eastern Illinois University
Charleston, Illinois 61920

Dear Dr. Peterson:

I would like to take this opportunity to express my appreciation for the opportunity to field test the ETC material developed by your team at Eastern Illinois University.

With many new concepts that come on the scene in education, one always runs the risk of negating the value of a good concept because many people jump on the bandwagon to produce and/or provide material that supposedly supports the concept but in fact turns people off. This is very obvious with much of the Career Education material that is currently available from the many publishers. Frankly, I am tired of seeing "gimmicks".

In addition to quickly devised or revised materials is the plethora of "instant experts". I have been frustrated beyond belief at the number of so called "experts" who have appeared on the Career Education scene and whose sole contribution is a one-time presentation and beyond that is repetition and jargon.

All of us who were involved with field testing the ETC material were impressed with the professional manner it was developed and assembled. (That the material coincided with our Career Education philosophy helped also.) It was also refreshing to receive direct, prompt answers to questions we had concerning the material.

I would also like to share with you my thanks for the opportunity to work directly with Janet Sutherland. She is very competent, thorough, and professional, and we enjoyed working with her.

Thank you again for affording us the opportunity to use your material. If this material is representative of what your team does, we offer our school district as a field test site any time.

Sincerely,

Robert Cochran

Robert Cochran, Assistant Director
Department of Secondary Education

RC:nah

# CHAPTER V

## SUMMARY AND RECOMMENDATIONS

### Summary

The findings presented in Chapter IV indicate that:

1. The dimensions of career development that were outlined by the project staff--Attitudes and Appreciations, Career Information, Coping Behaviors, Educational Awareness, Lifestyle, and Self-Development are proving to be highly accepted by the elementary education and the elementary school counseling profession.

2. The final list of career development concepts that were identified by the project staff and validated by a validation task force is not an exhaustive list but it does represent a list of high priority concepts.

3. Reactions from teachers indicated that the infusion strategies did teach the concepts they were purported to teach. Some teachers reported the activities were too easy and some reported that the activities were too difficult for the grade level intended. This reaction was expected by the project staff and that is why a developmental approach with multi-ability experience level activities was devised.

4. The materials can be used in the various settings that were represented by the field testing sites. However, teachers at some sites tended to be more selective and more willing to adapt materials to fit their needs while teachers at other sites tended to use the materials as presented. This is probably fairly representative of what will happen when the materials are made available for mass use. It was the intent of the materials developers that teachers would modify and adapt the materials. However, for those teachers who do not have the time to do so, the materials do provide enough direction for a teacher to begin a career education program.

5. Teachers remarked that the four dimension volumes were a little overwhelming size-wise and that the volumes were too bulky. They had a great conflict in determining whether they were willing to forego the developmental approach (all six grade levels) in each volume for a volume that contained materials for their grade level only. After considerable

discussion with teachers a compromise was reached. The materials are to be packaged in three volumes: K-2, 3-4 and 5-6. However, each of the three volumes will contain concepts for all six levels but will contain teaching strategies for only the grade levels represented in the guide titles.

6. For an average classroom size of 20, the per pupil cost for the ETC curriculum guide is $.75. If schools choose to use the REACT pages, then additional costs for paper and duplicating supplies should be added to the $.75. Schools can incur additional cost if they choose to take many field trips that are distant from the school or if they wish to purchase manipulative items. However, the ETC materials have been designed so that little additional cost is needed. Children can make some of the manipulatives, resource people in the classroom can be substituted for field trips, etc. The cost is a local option.

7. When teachers were asked what type of inservice preparation was needed to use the ETC materials, they gave top priority to a two- or three-hour session once a week for nine weeks at their school. This was a consistent finding among teachers who had had previous inservice training in career education and those who had had none. Their second choice was a one-day session at their school. Teachers did not opt for the maximum options of 18-week or year-long inservice programs. Inservice is needed but it does not have to be of long duration.

8. Teachers felt that visiting other classrooms to see how teachers are conducting career education activities, viewing films which explain the career education movement, experiencing an infusion strategy from the point of view of the student, and viewing and working with student materials for use in career education programs should be a part of an inservice program.

9. The data from children consistently revealed at all test sites that children liked career education activities suggested in the ETC materials and they like the REACT pages. It is the judgment of the ETC staff and third-party evaluators that children were more excited about REACT pages than the teachers.

10. Parents were surveyed through use of a questionnaire. Parents who returned questionnaires definitely wanted career education to be part of their child's school program.

11. The concrete plans that many teachers had made for using the materials differently the "next time around" gave an indication that the materials were being accepted. Many teachers indicated that now they knew what the materials were they could better

coordinate the materials with their entire year's program. The field testing teachers were at a serious disadvantage in regard to coordinating the materials with their teaching plans. The fact that in such a short space of time teachers were able to select strategies that fit in with their teaching plans is indication that if teachers are given more "lead time" they will be able to coordinate the ETC materials with subject matter they are teaching.

12. Supportive staff such as the school nurse, custodian, speech therapist, librarian, etc. were very positive about having a career education program in their building. The chief ways supportive staff became involved in the career education program were by acting as resource people and by helping when the program applied to their work, such as using career vocabulary or displaying library books by career topics. Supportive staff who did not have an opportunity to become involved in the program expressed regrets.

13. When students in Schools A, B, and G (Control) were compared on the total number of jobs named in pretest and posttest interviews, there was a significant difference at the .02 level. This significance can be attributed to the fact that in School A students named 18 less occupations in the posttest interviews than in the pretest interviews and School B students named 42 more occupations in posttest interviews than in pretest interviews. The large increase by School B students was significantly better than the control group but the decline by School A students was not particularly significant.

14. Students were asked the question, "How would you go about finding what a ___________ does?" On posttest interviews the students named more ways than in pretest interviews. However, the increase was not significant.

15. Students were asked the question, "Do you think you could learn to be a __________?" (Interviewer named an occupation previously listed by the child.) No significant differences were found between pretest and posttest interviews. This can partially be attributed to the fact that the high number of affirmative answers given by students on the pretest (35 of the 39 A + B students responded "yes" on the pretest) simply was not conducive for significant differences to occur when the posttest data revealed that 36 of the 39 A + B students answered "yes."

16. Students were asked the question, "Why do people work?" Statistical analysis revealed no significant differences between pretest and posttest responses. However, the chi square values simply did not reveal some very important findings. Because the data involved such small numbers, great extremes in data were needed in order for the chi square

values to be significant. However, the data must be examined from a relative point of view. Examination of the raw data for the total N of A + B students revealed that on the pretest students were able to name four different reasons why people work. However, on posttest interviews the students named eight different reasons why people work--double the pretest figure! On the pretest the following reasons were given: (1) earn money, (2) so you can help people, (3) to do something you like, and (4) to keep things clean and shiny. On the posttest the following reasons were given: (1) to earn money, (2) so you can help people, (3) to do something you like, (4) If there wasn't work to do people would sit around and watch television or sleep. (5) to be nice, (6) to know what other people do, (7) to have personal contact with people, and (8) you have more responsibility than at home.

The reasons listed by children in the posttest interviews had increased in variety. The interviewers also noted that children were better able to verbalize their thoughts about why people work. The reasons given by children in the posttest interviews were aimed directly at some of the concepts that are included in the ETC materials. This is an important finding in that the materials appear to be helping children gain a broader perspective on why people work.

17. Students were asked the question, "Who do you think should be a nurse? Man? Woman? Both?" On posttest interviews more students indicated that both men and women should be nurses than indicated this preference on pretest interviews. However, there was no statistically significant difference. It is the intent of ETC materials to help students remove sex role stereotyping of occupational areas so the fact that some students were beginning to think more toward equal occupational opportunities is an important finding.

18. Students were asked the question, "Who do you think should be an airplane pilot? Man? Woman? Both?" Again, because the data involved small numbers, great extremes in data were needed in order for the chi square values to be significant. The total N of A + B girls and the total N of A + B boys indicate that any changes which occurred were in the direction of lessening sex role stereotyping. However, the changes were very slight.

19. Students were asked the question, "Who do you think should be a teacher? Man? Woman? Both?" No significant differences could have been expected for this question since such high numbers of student responses fell in the "both" category on both the pretest and the posttest. An important finding, however, is that evidently the ETC materials are not causing new sex stereotyping biases to occur.

## Recommendations

1. Readiness on the part of teachers to accept career education should be assessed before any career education curricular materials are introduced. Inservice education should then be planned on the basis of this assessment and any other pertinent data.

2. In general, it is recommended that teachers receive inservice education prior to use of the ETC materials and this education should be a two- or three-hour session once a week for nine weeks at their school.

3. The content of this inservice education should focus primarily on the philosophy of career education and teaching methods and techniques that could be used in the classroom. Some time should be spent on explaining the ETC materials but this can be limited to two hours. The inservice education program should include opportunities for visiting other classrooms to see how teachers are conducting career education activities, viewing films which explain the career education movement, experiencing an infusion strategy from the student point of view, and viewing and working with student materials for use in career education programs.

4. Teachers should be selective in determining which infusion strategies and teaching activities they should use. Strategies and activities should be coordinated with teaching plans. There is no intent for the teacher to start in the front of the guide and proceed sequentially through the guide.

5. Teachers should modify and adapt strategies and activities to fit student needs. If children have difficulty relating to an oceanographer, then another occupational area can be selected to teach the same concepts that appear in activities related to the oceanographer. The career development concepts should be emphasized rather than the occupational area.

6. Teachers should individualize instruction by selecting activities from experience levels other than the experience level they are teaching. This is why a developmental approach with multi-experience level activities has been used.

7. Teachers should not limit themselves to the ETC guides. Other resources are recommended in the guides and these resources along with others with which the teacher may be familiar should be used.

8. Field testing indicates that the materials are ready for mass dissemination. As with most curriculum guides, effectiveness will be highly dependent on the user.

9. Consideration should be given to a longitudinal study which would monitor achievement in subject matter areas as well as career development. Measurement of subject matter achievement during the short time the ETC materials were field tested would not have given data which were meaningful.

10. The curriculum design for the ETC materials was a sophisticated one which spread career development concepts and occupational areas throughout four subject matter areas at seven different grade levels. This design might be used for the development of additional student materials that would supplement and enrich the ETC materials.

11. Curriculum personnel are advised to secure a copy of A K-6 Curricular Design: Concepts and Components. This document explains the design behind the ETC program and may be useful for those involved in developing curricular materials.

12. Curriculum personnel are advised to secure a copy of Career Education: Designs and Decisions. This document presents the philosophical and psychological base for the ETC program.

# CHAPTER VI

# ETC STAFF IMPACT ON CAREER EDUCATION THROUGH RELATED ACTIVITIES

Although the major objective of the ETC Project staff was the development of career education curriculum materials, staff members have been called upon to provide career education leadership throughout the United States. Additionally, the presence of the Enrichment of Teacher and Counselor Competencies in Career Education Project on the Eastern Illinois University campus has had impact on many university efforts.

When career education consultants were used to provide input into project activities, the university community was also invited to attend presentations made by the consultants. During the summer of 1973, approximately 100 individuals attended weekly lectures which were given by visiting consultants. Approximately 25 of the 100 individuals attending the weekly lectures were Eastern Illinois University faculty members. This lecture series was also offered for one quarter hour of credit as Education 463--Trends and Issues in Career Education.

## Enrichment of Teacher and Counselor Competencies in Career Education Project
## Career Education Distinguished Lecture Series

Eastern Illinois University
Summer, 1973

June 22 — Mr. Joel Smith, Director
Cobb County Career Education Project
Marietta, Georgia
"Career Education in Operation"

June 29 — Dr. Rupert Evans
University of Illinois
College of Education
Urbana, Illinois
"Career Education--What Is It?"

Ms. Donna R. Chiles, President
American Personnel and Guidance Association
Annapolis, Maryland
"The American Personnel and Guidance Association and Its Relationship to the Career Education Movement"

Dr. John Jarolimek
University of Washington
Seattle, Washington
"Elementary School Career Education and the Social Studies Program"

| | |
|---|---|
| July 6 | Dr. Louise Vetter, Research Specialist<br>The Center for Vocational and Technical Education<br>The Ohio State University<br>Columbus, Ohio<br>"The Majority Minority: Career Development of Women" |
| July 13 | Mr. Alan Sloan, Executive Vice President<br>Sutherland Learning Associates<br>Los Angeles, California<br>"Curriculum for Career Awareness for Children's Television Program" |
| July 20 | Mr. Michael Zockle, Director<br>Career Education Project<br>Warren, Ohio Public Schools<br>"Career Education for the Special Education Student" |
| July 27 | Dr. Lowell Burkett, Executive Director<br>American Vocational Association<br>Washington, D. C.<br>"AVA and the Career Education Movement" |
| August 3 | Dr. Bertram Caruthers, Assistant to the Superintendent<br>Kansas City Public Schools<br>Kansas City, Kansas<br>"Career Education in an Urban Setting" |
| August 10 | Dr. Ed Houck<br>The Center for Vocational and Technical Education<br>The Ohio State University<br>Columbus, Ohio<br>"The Comprehensive Career Education Model: The Career Awareness Phase" |

## Publications

The project staff has been very active in writing articles for professional publications and writing instructional materials for commercial publishers. An indication of the respect accorded project work is the fact that ETC staff members have been asked to prepare instructional materials for four commercial publishers. Each of the publishers has devised its own format for career education materials and has then called upon ETC staff members to assist with the writing.

1. One staff member made manuscript content recommendations and wrote teachers' manuals for 15-volume series of books published by Lothrop, Lee and Shepard.

    Jobs in Agribusiness and Natural Resources
    Jobs in Business and Office
    Jobs in Communication
    Jobs That Help the Consumer and Homemaker

Jobs That Save Our Environment
Jobs in Fine Arts and Humanities
Jobs in Health Care
Jobs in Recreation and Hospitality
Jobs in Manufacturing
Jobs in Marine Science
Jobs in Marketing and Distribution
Jobs in Personal Services
Jobs in Public Services
Jobs in Transportation

2. Two staff members have signed a conditional contract with The Center for Applied Research in Education, New York, to co-author a series of career development activities books called CAREER DEVELOPMENT ACTIVITIES FOR CHILDREN IN THE ELEMENTARY GRADES.

3. One staff member is currently co-authoring a junior high school career exploration series for McGraw-Hill Book Company.

4. One staff member is currently co-authoring a professional book, Career Education and Implications for Mathematics Education for Houghton Mifflin Publishing Company.

5. One staff member prepared "Career Awareness" chapter in 1973 American Vocational Association Yearbook. Washington, D. C.: American Vocational Association, 1973.

6. Dr. Gilbert Fite, President, Eastern Illinois University, authored the career education in higher education chapter of the 1973 American Vocational Association Yearbook. ETC staff provided input into this chapter.

   Note: The American Vocational Association published 5,635 copies of the 1973 AMERICAN VOCATIONAL ASSOCIATION YEARBOOK.

7. One staff member is authoring Chapter 4 of the first publication to be released by the newly created Office of Career Education, USOE. The publication will be titled, "Career Education: The State of the Scene." (In press)

8. One staff member is authoring workshop materials to accompany 15 films for 9-12 year olds which is being produced by National Instructional Television. The series is titled "Bread and Butterflies."

Periodicals

Staff members have authored the following articles:

1. "Career Education: Curriculum Development for the Elementary School," National Business Education Association Forum, February 1974. Approximately 22,000 copies of this Forum were distributed nationwide.

2. "Career Education in the Elementary School: An Evolving Phenomenon," May 1974 issue of American Vocational Journal (In press). Approximately 60,000 issues of the Journal were distributed nationwide.

3. "Application of Vocational Development Theory to Career Education," Information Analysis Paper to be published by ERIC Clearinghouse on Vocational and Technical Education, The Ohio State University, 1973. Over 700 copies of this document were printed for distribution.

4. "Young Children and Self Awareness in the Work World," feature article in forthcoming issue of The Exceptional Child. Issue devoted to career education. Published by Council for Exceptional Children.

5. "The ETC Project," Illinois ASCD Newsletter, January 1973.

## Presentations Made by Project Staff

Various associations and agencies requested ETC staff members to make presentations on career education. Invitations were accepted if they fit into the work schedule of the ETC Project.

The following presentations were given to meetings of national and state organizations:

1. International Reading Association Convention, New Orleans, Louisiana (1974)
   Topic: Career Education and Language Arts

2. Council of Chief State School Officers Career Education Conference, Dallas, Texas (1974)
   Topic: Career Education: Implications for the Elementary School Curriculum

3. Association for Supervision and Curriculum Development Convention, Anaheim, California (1974)
   Topic: ETC Project

4. American Vocational Association, Atlanta, Georgia (1973)
   Topic: ETC Project

5. American Education Research Association, New Orleans, Louisiana (1973)
   Topic: A Multi-Media System for Career Education

6. National Business Education Association, Chicago, Illinois (1973)
   Topic: Career Education in the Elementary School

7. Illinois Association of Supervision and Curriculum Development, Chicago, Illinois (1973)
   Topic: Career Education in the Elementary School

8. American Vocational Association, Agricultural Education Division, Chicago, Illinois (1972)
   Topic: Career Education for Awareness

9. American Vocational Association, Industrial Arts Education Division, Chicago, Illinois (1972)
   Topic: Career Education

10. American Vocational Association, Business Education Division, Chicago, Illinois (1972)
    Topic: A Nationwide View of Career Education

11. American Vocational Association, USOE Research Reporting Session, Chicago, Illinois (1972)
    Topic: Enrichment of Teacher and Counselor Competencies in Career Education

12. Bureau of Adult, Vocational, and Technical Education Staff, United States Office of Education, Washington, D. C. (1972) Speech before Elementary Education, Counselor Education, and Vocational Education Staff Members
    Topic: Career Education in the Elementary School

13. Illinois Division of Vocational and Technical Education University Liaison Committee Meeting, Charleston, Illinois (1973)
    Topic: ETC Project

14. New Mexico State Department of Education, Santa Fe, New Mexico (1972)
    Topic: Career Development

15. Nebraska Education Association, Omaha, Nebraska (1972)
    Topic: Career Development

16. Florida Vocational Association, Miami Beach, Florida (1972)
    Topic: Career Development

17. Virginia Division of Vocational and Technical Education, Norfolk, Virginia (1972)
    Topic: Career Development

18. Illinois Office of the Superintendent of Public Instruction, Springfield, Illinois (1972)
    Topic: Career Development

19. Illinois Division of Vocational and Technical Education, Springfield, Illinois (1972)
    Topic: Career Development

The following presentations were given at workshops and inservice meetings:

1. North Texas State University, Denton, Texas (1972)
   Topic: Career Education for Awareness (main speaker for workshop)

2. Southern Illinois University, Carbondale, Illinois (1973)
   Topic: Career Education for Awareness

3. Western Illinois University, Macomb, Illinois (1973)
   Topic: Career Education in the Elementary School

4. Inservice Workshop for Principals (conducted by Western Illinois University), Charleston, Illinois (1974) - funded by Illinois Division of Vocational and Technical Education
   Topic: Career Education in the Elementary School

5. K-12 Career Education Implementation Workshop (sponsored by Career Education Resource Laboratory), Eastern Illinois University, Charleston, Illinois (1974)
   Topic: ETC Project

6. Elementary Guidance Education Workshop, Springfield, Illinois (1973) (funded by Illinois Division of Vocational and Technical Education)
   Topic: Career Education in the Elementary School

7. Elementary Guidance Education Workshop, Macomb, Illinois (1973) (funded by Illinois Division of Vocational and Technical Education)
   Topic: Career Education in the Elementary School

8. Career Education Workshop for Elementary Teachers, Joliet, Illinois (1973)
   Topic: Career Education in the Elementary School

9. Career Development Workshops (funded by Illinois Division of Vocational and Technical Education)

   Blackhawk Junior College (1972)
   Moline, Illinois

   Illinois State University (1973)
   Normal, Illinois

   Southern Illinois University (1973)
   Carbondale, Illinois

   Northern Illinois University (1973)
   DeKalb, Illinois

10. Inservice Meeting for K-12 Teachers, Westfield, Illinois (1974)
    Topic: ETC Project

11. Inservice Meeting for Coordinators of Out-of-State Field Testing - Representatives from Springfield, Oregon; Pueblo, Colorado; and Beloit, Kansas - Denver, Colorado (1974)

12. Taylorville, Illinois, Public Schools K-6 Career Education Committee (1974)
    Topic: Introduction to Career Education

13. Rardin/Lincoln Public School Teachers, Charleston, Illinois (1974)
    Topic: Introduction to Career Education

14. Mark Twain Public School Teachers, Charleston, Illinois (1973)
    Topic: Career Education

The following presentations were given to Eastern Illinois University classes:

1. Business Education and Administrative Office Management Course -
   3400 Methods of Teaching Business
   Dr. Chase (1974)

2. Educational Foundation Course -
   4450 History and Philosophy of Education
   Dr. Kofoid (1974)

3. Educational Guidance Course -
   4910 Guidance in the Elementary School
   Dr. Ward (1974)

4. Elementary Education Course -
   3270 Teaching Social Studies and Language Arts in the Elementary School
   Dr. Helwig (1974)

5. Industrial Arts Course -
   5722 Innovations in Industrial Education
   Dr. Strandberg (1974)

6. Education Course -
   232 Human Growth, Development, and Learning
   Dr. Canada (1973)

7. Education Course -
   327 Teaching Social Studies and Language Arts in the Elementary School
   Dr. Grado (1973)

Additional Project-Related Activities

1. A subcontract for the K-9 portion of the Agribusiness, Renewable Natural Resources and Environmental Protection Cluster Project (funded by BAVTE) was negotiated with The Ohio State University. In fact, staff members at Ohio State approached ETC staff members to see if expertise could be found on the EIU campus to develop the K-9 materials. The ETC Project director agreed to feed K-6 concepts to the subcontracted project and to assist the project director of the subcontracted project with project activities. This type of relationship assured coordination between two BAVTE-funded projects.

2. The Business and Office Education Cluster Project (also funded by BAVTE) at Colorado State University has requested the services of the ETC project director to develop the K-6 portion of the Business and Office Cluster. This effort will again assure coordination with another BAVTE-funded project.

3. The project staff is providing the leadership to organize the elementary education interest section of the Guidance Division of the American Vocational Association. One staff member is serving as chairman of the elementary education interest section and another is serving as secretary. The project director was recently elected to a 3-year term on the Policy and Planning Commission of the Guidance Division, American Vocational Association.

4. ETC Project staff taught Elementary Education 460 - Career Education in the Elementary School (4 q. hr. course) - The course was held on the campus of Eastern Illinois University during the 1973 summer term.

5. Two staff members taught Elementary Education 4780 - Career Education in the Elementary School (3 semester hour course) - Extension class taught in Pana, Illinois, during the fall semester 1974.

6. One staff member served on the Action Goals for the '70's Career Development Committee during the 1973-74 academic year. This committee was established by the Office of the Superintendent of Public Instruction, Springfield, Illinois.

7. One staff member served on the committee established by the Office of the Superintendent of Public Instruction for Career Awareness Curricula, Materials, and Teaching Techniques for Hearing, Physically, and Visually Impaired Children, Grades K-6.

8. A "Christmas" open house was held during December 1973 for Eastern Illinois University faculty. Approximately 150 faculty members from many different departments attended the open house and viewed displays of project materials.

## Graduate Work

One staff member worked half time as project associate while finishing her M.S. in Elementary Education. Her M.S. research paper presented to the examination board was "Implications of Career Education for the Total Curriculum." She also pursued graduate independent study on the infusion of career education with the social studies curriculum. Resulting paper was entitled "Infusion of Social Studies and Career Education in Grades 3 and 4."

# APPENDICES

# Appendix A

# Master Index of Infusion Strategy Contents

# MASTER INDEX OF INFUSION STRATEGY CONTENTS

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CB - COPING BEHAVIORS
DM - DECISION MAKING
LS - LIFESTYLE
SD - SELF-DEVELOPMENT

## Readiness Level

### LANGUAGE ARTS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Grammar and Usage) | | | | | |
| DM | As I See It | Commercial Artist | I Can Guess | Uses of language: express feelings, describe, inquire | 74 |
| LS | Specials for Customers | Grocer | Because There Are People | Informal awareness of sentence patterns | 61 |
| LS | Specials for Customers | Grocer | That's Why I Do It | Proper forms and usage | 71 |
| (Listening and Speaking) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | Following Directions | Listening comprehension | 66 |
| CB | Do As I Do | Teacher | Read the Story | Listening comprehension | 366 |
| DM | Knowing Where to Go | Fireman | What Is a Goal? | Listening comprehension | 367 |
| DM | Knowing Where to Go | Fireman | Comparing Goals | Listening comprehension | 383 |
| SD | Play Is Work | Athlete | Breathe and Balance | Show and tell activities | 315 |
| SD | Play Is Work | Athlete | Time Out | Listening for comprehension | 319 |
| (Reading) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | Outdoors | Read labels | 74 |
| CB | Do As I Do | Teacher | What Does the Teacher Do? | Left-to-right orientation<br>Letter name knowledge | 361 |
| CB | Do As I Do | Teacher | Read the Story | Picture reading | 366 |
| DM | As I See It | Commercial Artist | Look at Me | Audio and visual discrimination | 69 |
| DM | Knowing Where to Go | Fireman | What Is a Goal? | Sound-letter relationship | 367 |
| DM | Knowing Where to Go | Fireman | Comparing Goals | Tell story from picture | 383 |
| LS | Specials for Customers | Grocer | Because There Are People | Left-to-right orientation<br>Visual discrimination | 61 |
| SD | The Family Likes It | Landscaper | Tree or Flower | Picture dictionary | 69 |
| SD | Play Is Work | Athlete | Time Out | Left-to-right orientation | 319 |
| SD | This Is Home | Homemaker | I'm Hungry | Patterns of organization<br>Cause-effect, sequence | 568 |
| (Writing Skills) | | | | | |
| CB | Do As I Do | Teacher | What Does the Teacher Do? | Print own name, simple words | 361 |
| CB | Do As I Do | Teacher | One for the Books | Word labels for objects in room | 370 |

## Readiness Level

### MATHEMATICS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Facts and Operations) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | More Than One Toy | Counting | 70 |
| DM | As I See It | Commercial Artist | What a Shape | Counting members of a set<br>Equivalence | 58 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| LS | Specials for Customers | Grocer | They Depend on Me | Counting members of a set | 66 |
| (Figural) | | | | | |
| LS | Specials for Customers | Grocer | They Depend on Me | Read bar and picture graphs | 66 |
| SD | Play Is Work | Athlete | Rules and Penalties | Bar graphs | 323 |
| (Geometry) | | | | | |
| DM | As I See It | Commercial Artist | What a Shape | Recognition of simple shapes | 58 |
| DM | As I See It | Commercial Artist | I Can Guess | Recognition of simple shapes | 74 |
| SD | The Family Likes It | Landscaper | Sizes | Manipulation of basic solids and planes | 61 |
| SD | The Family Likes It | Landscaper | Planning | Manipulation of basic solids and planes | 65 |
| (Measurement) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | How Big Is It? | Distinguish short-tall, heavy-light, least-most, wide-narrow | 78 |
| CB | Do As I Do | Teacher | One for the Books | Calendar | 370 |
| LS | Specials for Customers | Grocer | That's Why I Do It | Distinguish short-tall, heavy-light, least-most, wide-narrow | 71 |
| SD | The Family Likes It | Landscaper | Sizes | Distinguish short-tall, heavy-light, least-most, wide-narrow | 61 |
| (Problem Solving) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | How Big Is It? | Simple oral problems<br>Counting for classroom needs | 78 |
| CB | Do As I Do | Teacher | One for the Books | Simple oral problems<br>Counting for classroom needs | 370 |

## Readiness Level

### SCIENCE

| | | | | | |
|---|---|---|---|---|---|
| (Biology) | | | | | |
| SD | The Family Likes It | Landscaper | Tree or Flower | Growing plants and their care | 69 |
| (Earth and Sky) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | Outdoors | Local weather conditions | 74 |
| (Physics) | | | | | |
| DM | As I See It | Commercial Artist | Looking and Seeing | Functions of Shape | 64 |
| (Scientific Method) | | | | | |
| DM | As I See It | Commercial Artist | What a Shape | Use of senses to gather data<br>Categorizations | 58 |
| DM | As I See It | Commercial Artist | Looking and Seeing | Use of senses to gather data | 64 |
| DM | As I See It | Commercial Artist | I Can Guess | Use of senses to gather data<br>Categorizations | 74 |
| DM | As I See It | Commercial Artist | Look at Me Again | Textures | 78 |
| LS | Specials for Customers | Grocer | That's Why I Do It | Categorizations | 71 |
| SD | The Family Likes It | Landscaper | Sizes | Categorizations | 61 |
| SD | The Family Likes It | Landscaper | Tree or Flower | Categorizations | 69 |
| SD | This Is Home | Homemaker | The Family Cares | Categorizations | 573 |

# Readiness Level

SOCIAL STUDIES

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Economics) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | Following Directions | Division of labor in home, school, and community | 66 |
| DM | Knowing Where to Go | Fireman | What Is a Goal? | Division of labor in home, school, and community | 367 |
| DM | Knowing Where to Go | Fireman | Now and Future | Division of labor in a group | 381 |
| LS | Specials for Customers | Grocer | They Depend on Me | Differences between goods and services<br>Family needs and wants | 66 |
| LS | Specials for customers | Grocer | Working to Help | Family needs and wants | 76 |
| SD | The Family Likes It | Landscaper | Tree or Flower | Division of labor in a family | 69 |
| SD | This Is Home | Homemaker | I'm Hungry | Differences between goods and services | 568 |
| SD | This Is Home | Homemaker | The Family Cares | Division of labor in home | 573 |
| (Geography) | | | | | |
| DM | Knowing Where to Go | Fireman | How to Get to the Fire | Map represents surface of the earth.<br>Use of symbols | 374 |
| (History) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | Following Directions | Personal memories | 66 |
| CB | Moving and Changing | Construction Machine Operator | How Big Is It? | Personal memories | 78 |
| (Political Science) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | More Than One Toy | Authority in school and home<br>Classroom and building rules | 70 |
| CB | Moving and Changing | Construction Machine Operator | Outdoors | Classroom and building rules<br>Authority in school and home | 74 |
| CB | Moving and Changing | Construction Machine Operator | How Big Is It? | Authority in school and home | 78 |
| DM | As I See It | Commercial Artist | Look at Me | Authority in school and home | 69 |
| DM | As I See It | Commercial Artist | Look at Me Again | Authority in school and home | 78 |
| SD | Play Is Work | Athlete | Rules and Penalties | Classroom and building rules | 323 |
| (Sociology-Anthropology) | | | | | |
| CB | Moving and Changing | Construction Machine Operator | Outdoors | Individuality and responsibility | 74 |
| CB | Moving and Changing | Construction Machine Operator | How Big Is It? | Care of equipment | 78 |
| CB | Do As I Do | Teacher | This Is New | Membership in a group<br>Individuality and responsibility | 376 |
| DM | As I See It | Commercial Artist | Looking and Seeing | Individuality and responsibility | 64 |
| DM | As I See It | Commercial Artist | Look at Me Again | Individuality and responsibility | 78 |
| DM | Knowing Where to Go | Fireman | What Is a Goal? | Individuality and responsibility | 367 |
| DM | Knowing Where to Go | Fireman | Now and Future | Membership in a group | 379 |
| DM | Knowing Where to Go | Fireman | I Can Do It Myself | Membership in a group<br>Individuality and responsibility | 387 |
| LS | Specials for Customers | Grocer | Because There Are People | Membership in a group | 61 |
| LS | Specials for Customers | Grocer | That's Why I Do It | Individuality and responsibility | 71 |
| LS | Specials for Customers | Grocer | Working to Help | Individuality and responsibility | 76 |
| SD | The Family Likes It | Landscaper | Planning | Membership in a group | 65 |

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Sociology-Anthropology Cont'd) | | | | | |
| SD | This Is Home | Homemaker | Pitch In | Membership in a group<br>Individuality and responsibility | 563 |
| SD | This Is Home | Homemaker | I'm Hungry | Contact with others is needed. | 568 |

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## First Experience Level

### LANGUAGE ARTS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Grammar and Usage) | | | | | |
| DM | Things Look Different | Pilot | Listen to Ground Control | Building sentences about cause or condition | 93 |
| SD | All the World | Actor | As I Do It | Uses of language: express feelings, describe | 83 |
| (Listening and Speaking) | | | | | |
| CB | I Protect You | Policeman | It Has to be Written | Noting and remembering details | 105 |
| DM | Things Look Different | Pilot | Listen to Ground Control | Choose right word meaning in oral exercises<br>"Let's talk" lessons<br>Listening to note details | 93 |
| DM | Things Look Different | Pilot | Plotting a Course | Listening for information<br>Listen to note details | 103 |
| DM | Things Are Getting Better | Licensed Practical Nurse | I Like People | Listen to interpret feelings<br>"Let's talk" lessons | 412 |
| DM | Things Are Getting Better | Licensed Practical Nurse | Where I Work | Noting and remembering details<br>Choose correct word meanings in oral sentences. | 427 |
| LS | Coming Attractions | Theater Manager | Alike and Different | Choosing correct word meaning<br>Listening comprehension | 111 |
| (Reading) | | | | | |
| CB | I Protect You | Policeman | Watch Out | Understanding sentences | 96 |
| CB | I Protect You | Policeman | Help Me Find It | Main ideas and details | 111 |
| CB | Going Below | Diver | Why Dive? | Picture reading<br>Picture dictionary | 406 |
| DM | Things Look Different | Pilot | Places to Work | Understanding sentences | 108 |
| DM | Things Are Getting Better | Licensed Practical Nurse | Where I Work | Main ideas<br>Understanding sentences<br>Visual discrimination | 430 |
| SD | All the World | Actor | As I Do It | Patterns of organization<br>Understanding sentences | 83 |
| SD | All the World | Actor | The Show Must Go On | Understanding sentences | 88 |
| (Writing Skills) | | | | | |
| CB | I Protect You | Policeman | It Has to Be Written | Beginning manuscript writing | 105 |
| CB | I Protect You | Policeman | Help Me Find It | Beginning manuscript writing | 111 |
| CB | Going Below | Diver | Senses | Vocabulary building | 393 |
| SD | At Your Service | Deliveryman | How Much or How Many? | Print name, simple words | 337 |

## First Experience Level

### MATHEMATICS

| | | | | | |
|---|---|---|---|---|---|
| (Facts and Operations) | | | | | |
| CB | I Protect You | Policeman | It Has to Be Written | Counting | 105 |
| CB | I Protect You | Policeman | Help Me Find It | Cardinal numbers | 111 |
| DM | Things Look Different | Pilot | Listen to Ground Control | Cardinals to 100 | 93 |
| DM | Things Look Different | Pilot | Pilots Use Dials | Cardinals to 100<br>Use of > < | 113 |
| DM | Things Are Getting Better | Licensed Practical Nurse | Knowing When and How Many | Sums through 10<br>Cardinals to 100<br>Counting by 2's | 404 |
| DM | Things Are Getting Better | Licensed Practical Nurse | How Much or How Many? | Counting by 1's, 2's | 420 |
| SD | All the World | Actor | Only One | Counting members of a set | 94 |
| SD | At Your Service | Deliveryman | How Much or How Many? | Counting | 337 |
| SD | At Your Service | Deliveryman | Convenience | Cardinal numbers<br>Counting | 349 |

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Geometry) | | | | | |
| DM | Things Look Different | Pilot | Pilots Use Dials | Number line, identify number order | 113 |
| (Measurement) | | | | | |
| CB | I Protect You | Policeman | Watch Out | Time | 96 |
| CB | I Protect You | Policeman | It Has to Be Written | Time | 105 |
| CB | Going Below | Diver | Skills and Tasks | Time | 400 |
| DM | Things Are Getting Better | Licensed Practical Nurse | Knowing When and How Many | Time | 404 |
| DM | Things Are Getting Better | Licensed Practical Nurse | How Long Do I Work? | Time | 425 |
| LS | Coming Attractions | Theater Manager | Wage Earners | Time<br>Money | 99 |
| LS | Coming Attractions | Theater Manager | Now Playing | Time | 118 |
| SD | At Your Service | Deliveryman | How Much or How Many? | Weight | 337 |
| (Problem Solving) | | | | | |
| DM | Things Are Getting Better | Licensed Practical Nurse | How Much or How Many? | Combining groups in oral stories | 420 |
| SD | All the World | Actor | Only One | Combining and separating groups | 94 |
| SD | At Your Service | Deliveryman | How Much or How Many? | One-step problems | 337 |

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## First Experience Level

### SCIENCE

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Biology) | | | | | |
| SD | Handy Interests | Ranch Hand | All Kinds of Ranches | Animals are different in size, structure<br>Living things grow. | 587 |
| (Scientific Method) | | | | | |
| CB | Going Below | Diver | Senses | We observe with our senses. | 393 |
| CB | Going Below | Diver | Skills and Tasks | Describe, find similarities and differences | 400 |
| CB | Going Below | Diver | Why Dive? | Describe, find similarities and differences | 406 |
| LS | Coming Attractions | Theater Manager | Alike and Different | Describe, find similarities and differences | 111 |
| SD | At Your Service | Deliveryman | Try This One | Categorizations | 343 |

## First Experience Level

### SOCIAL STUDIES

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Economics) | | | | | |
| CB | Going Below | Diver | Tugging to Tell | Work is a basis for role differentiation. | 413 |
| DM | Things Look Different | Pilot | Places to Work | Work is a basis for role differentiation. | 108 |
| LS | Coming Attractions | Theater Manager | Wage Earners | Work is a basis for role differentiation.<br>Earning money | 99 |
| LS | Coming Attractions | Theater Manager | Hello, Good-By | Earning money<br>Production of goods and services | 104 |
| LS | Coming Attractions | Theater Manager | Alike and Different | Work is a basis for role differentiation.<br>Division of labor | 111 |
| SD | At Your Service | Deliveryman | Try This One | Needs and wants | 343 |
| SD | Handy Interests | Ranch Hand | What Would You Like to Do? | Division of labor<br>Production of goods and services | 592 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Geography) | | | | | |
| DM | Things Look Different | Pilot | Plotting a Course | Trace routes on simple map.<br>Use of symbols | 103 |
| (Political Science) | | | | | |
| CB | I Protect You | Policeman | Watch Out | Community rights and requirements | 96 |
| CB | I Protect You | Policeman | Who Decided That? | Laws regulate behavior.<br>Community rights and requirements<br>Individual rights<br>Family and school rules | 117 |
| SD | At Your Service | Deliveryman | Convenience | Laws regulate behavior. | 349 |
| SD | Handy Interests | Ranch Hand | What Would You Like to Do? | Individual rights | 592 |
| (Sociology-Anthropology) | | | | | |
| CB | I Protect You | Policeman | Watch Out | Values and purposes in behavior<br>Dependence upon others | 96 |
| CB | I Protect You | Policeman | Help Me Find It | Dependence upon others | 111 |
| CB | Going Below | Diver | Tugging to Tell | Dependence upon others | 413 |
| DM | Things Look Different | Pilot | Listen to Ground Control | Values and purposes in behavior | 93 |
| DM | Things Are Getting Better | Licensed Practical Nurse | Knowing When and How Many | Dependence upon others<br>Values and purposes in behavior | 404 |
| DM | Things Are Getting Better | Licensed Practical Nurse | I Like People | Individual characteristics | 412 |
| DM | Things Are Getting Better | Licensed Practical Nurse | Where I Work | Individual characteristics | 430 |
| LS | Coming Attractions | Theater Manager | The Show Must Go On | Dependence upon others<br>Family as basic social unit<br>Values and purposes in behavior | 94 |
| LS | Coming Attractions | Theater Manager | Wage Earners | Family as basic social unit | 99 |
| LS | Coming Attractions | Theater Manager | Hello, Good-By | Lifestyles differ with time and place.<br>Family as basic social unit | 104 |
| LS | Coming Attractions | Theater Manager | Now Playing | Individual characteristics | 118 |
| SD | All the World | Actor | The Show Must Go On | Membership in a group<br>Dependence upon others<br>Values and purposes in behavior | 88 |
| SD | All the World | Actor | Only One | Individual characteristics | 94 |
| SD | At Your Service | Deliveryman | Try This One | Values and purposes in behavior | 343 |
| SD | At Your Service | Deliveryman | Convenience | Values and purposes in behavior | 349 |
| SD | Handy Interests | Ranch Hand | Sale, Show, or Rodeo | Lifestyles differ with time and place.<br>Values and purposes in behavior | 597 |

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# Second Experience Level

## LANGUAGE ARTS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Grammar and Usage) | | | | | |
| DM | Try It This Way | Home Service Representative | I'll Show You How | Spelling | 145 |
| DM | Try It This Way | Home Service Representative | Keeping a File | Proper forms and usage<br>Building sentences about cause and condition | 150 |
| LS | That's Living | Nurseryman | People or Plants | Beginning dictionary usage | 136 |
| LS | That's Living | Nurseryman | What Words Mean | Uses of language; describe | 149 |
| (Listening and Speaking) | | | | | |
| CB | What's the Number? | Telephone Operator | PBX or Telephone Company | Listening for information | 135 |
| CB | What's the Number? | Telephone Operator | Sit Up Straight | Listening for information<br>Asking pertinent questions | 149 |
| CB | One Thing Leads to Another | Clergy | How to Say It | Talking and listening lessons | 439 |
| DM | Try It This Way | Home Service Representative | Asking About the Community | Listening for information<br>Asking pertinent questions | 132 |
| DM | Try It This Way | Home Service Representative | I'll Show You How | Asking pertinent questions<br>Listening to details<br>Choosing right word meaning | 145 |
| LS | That's Living | Nurseryman | What Words Mean | Choose right word meaning | 149 |
| SD | Made to Measure | Upholsterer | Measured to Fit | Listening for information | 111 |
| SD | Climatic Customs | Meteorologist | Wind Indicators | Discussion skills<br>Noting and remembering details | 374 |
| SD | Climatic Customs | Meteorologist | So They Say | Discussion skills<br>Noting and remembering details<br>Listening for information | 379 |
| SD | May I Help You? | Secretary | Correct Form | Asking pertinent questions<br>Listening for information | 611 |
| SD | May I Help You? | Secretary | Who Is Calling? | Listening for information | 616 |
| (Reading) | | | | | |
| CB | One Thing Leads to Another | Clergy | Write It Now | Reading for information, other purposes | 433 |
| CB | One Thing Leads to Another | Clergy | How to Say It | Reading for information, other purposes | 439 |
| DM | Try It This Way | Home Service Representative | More or Less | Reading for information | 141 |
| DM | More Power to You | Electrician | Read All About It | Judgments of stories, characters<br>Reading for information, other purposes | 450 |
| LS | That's Living | Nurseryman | People or Plants | Reading for information | 136 |
| LS | That's Living | Nurseryman | Home Styles | Reading for information, other purposes | 144 |
| LS | That's Living | Nurseryman | What Words Mean | Context clues to word meaning | 149 |
| LS | That's Living | Nurseryman | Gardens | Reading for information, other purposes | 162 |
| SD | Made to Measure | Upholsterer | Measured to Fit | Reading for meaning | 111 |
| SD | Climatic Customs | Meteorologist | So They Say | Beginning vowel and consonant sounds<br>Judgements of stories, characters<br>Cause-effect organization | 379 |
| SD | May I Help You? | Secretary | Correct Form | Judgments of stories, characters<br>Dictionary | 611 |
| SD | May I Help You? | Secretary | Here It Is | Reading for information | 622 |
| (Writing Skills) | | | | | |
| CB | What's the Number? | Telephone Operator | PBX or Telephone Company | Writing short stories | 135 |
| CB | What's the Number? | Telephone Operator | Sit Up Straight | Writing short stories | 149 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Writing Skills Cont'd) | | | | | |
| CB | One Thing Leads to Another | Clergy | What Do You Think? | Writing short stories | 427 |
| CB | One Thing Leads to Another | Clergy | Write It Now | Writing short stories | 433 |
| LS | That's Living | Nurseryman | People or Plants | Writing a letter | 136 |
| LS | That's Living | Nurseryman | Home Styles | Short stories, poems | 144 |
| LS | That's Living | Nurseryman | What Words Mean | Print simple words | 149 |
| LS | That's Living | Nurseryman | Summer, Winter, Spring, and Fall | Vowels and consonants | 156 |
| LS | That's Living | Nurseryman | Gardens | Writing letters, short stories | 162 |
| SD | Made to Measure | Upholsterer | Measured to Fit | Writing letters | 111 |
| SD | Climatic Customs | Meteorologist | Wind Indicators | Short answers | 374 |
| SD | Climatic Customs | Meteorologist | So They Say | Spelling words grouped by ideas | 379 |
| SD | May I Help You? | Secretary | Correct Form | Spelling words<br>Writing a letter | 611 |
| SD | May I Help You? | Secretary | Who Is Calling? | Write topic sentences | 616 |
| SD | May I Help You? | Secretary | Here It Is | Alphabetical order<br>Spelling words | 622 |

## Second Experience Level

### MATHEMATICS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Facts and Operations) | | | | | |
| CB | What's the Number? | Telephone Operator | PBX or Telephone Company | Cardinal numbers | 135 |
| CB | What's the Number? | Telephone Operator | Long Distance Calling | Cardinal numbers<br>Addition facts<br>Concept of fractional parts | 142 |
| CB | What's the Number? | Telephone Operator | Number Please | Cardinal numbers | 154 |
| DM | Try It This Way | Home Service Representative | More or Less | Concept of one-half<br>Products through 18 | 141 |
| SD | Made to Measure | Upholsterer | Over and Under | Counting | 117 |
| (Figural) | | | | | |
| SD | Climatic Customs | Meteorologist | Weather Measures | Graphs<br>Maps and Charts | 368 |
| (Geometry) | | | | | |
| SD | Made to Measure | Upholsterer | The Designing Upholsterer | Manipulation of plane figures<br>Recognizing congruent figures | 122 |
| (Measurement) | | | | | |
| CB | What's the Number? | Telephone Operator | Long Distance Calling | Time | 142 |
| DM | More Power to You | Electrician | Planning Ahead | Time | 462 |
| SD | Made to Measure | Upholsterer | Measured to Fit | Length | 111 |
| SD | Made to Measure | Upholsterer | Over and Under | Length | 117 |
| SD | Climatic Customs | Meteorologist | Weather Measures | Temperature<br>Calendar | 368 |
| (Problem Solving) | | | | | |
| CB | What's the Number? | Telephone Operator | Long Distance Calling | One-step problems | 142 |
| DM | Try It This Way | Home Service Representative | More or Less | One-step problems | 141 |
| LS | That's Living | Nurseryman | People or Plants | One-step problems | 136 |
| LS | That's Living | Nurseryman | Gardens | One-step problems | 162 |
| SD | Made to Measure | Upholsterer | Measured to Fit | Solve number stories | 111 |

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# Second Experience Level

## SCIENCE

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Biology) | | | | | |
| LS | That's Living | Nurseryman | Home Styles | Living things change as they grow. | 144 |
| LS | That's Living | Nurseryman | Summer, Winter, Spring, and Fall | Living things adjust to seasons. | 156 |
| LS | That's Living | Nurseryman | Gardens | Growing plants and their care | 162 |
| (Earth and Sky) | | | | | |
| SD | Climatic Customs | Meteorologist | Weather Measures | Local weather conditions<br>Water and air together<br>Weather maps | 368 |
| SD | Climatic Customs | Meteorologist | Wind Indicators | Local weather conditions | 374 |
| SD | Climatic Customs | Meteorologist | So They Say | Local weather conditions<br>Use thermometer, study clouds, rain, sunshine, wind | 379 |
| (Physics) | | | | | |
| CB | What's the Number? | Telephone Operator | PBX or Telephone Company | Electricity moves through a conductor in a circuit. | 135 |
| DM | Try It This Way | Home Service Representative | I'll Show You How | Force moves things. | 145 |
| DM | More Power to You | Electrician | Completing a Circuit | Electricity moves through a conductor in a circuit. | 443 |
| DM | More Power to You | Electrician | What Is a Conductor? | Electricity moves through a conductor in a circuit. | 454 |
| (Scientific Method) | | | | | |
| DM | Try It This Way | Home Service Representative | Keeping a File | Categorizations | 150 |
| DM | More Power to You | Electrician | What Is a Conductor? | Investigative and evaluative techniques | 454 |
| SD | Made to Measure | Upholsterer | Over and Under | Things can be compared by measuring. | 117 |
| SD | Climatic Customs | Meteorologist | Wind Indicators | Use of senses to gather data<br>Investigative and evaluative techniques vary. | 374 |
| SD | Climatic Customs | Meteorologist | So They Say | Investigative and evaluative techniques vary.<br>Use of senses to gather data<br>Special instruments help us observe. | 379 |
| SD | May I Help You? | Secretary | Here It Is | Categorizing | 622 |

# Second Experience Level

## SOCIAL STUDIES

| | | | | | |
|---|---|---|---|---|---|
| (Economics) | | | | | |
| DM | Try It This Way | Home Service Representative | Asking About the Community | Community workers<br>Stores | 132 |
| DM | Try It This Way | Home Service Representative | I'll Show You How | Stores | 145 |
| DM | More Power to You | Electrician | Make a Chart | Community workers | 458 |
| DM | More Power to You | Electrician | Planning Ahead | Community workers | 462 |
| LS | That's Living | Nurseryman | Summer, Winter, Spring, and Fall | Earning money | 156 |
| (Geography) | | | | | |
| CB | What's the Number? | Telephone Operator | Long Distance Calling | Understanding scale | 142 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Geography Cont'd) | | | | | |
| DM | Try It This Way | Home Service Representative | Asking About the Neighborhood | Needs differ according to climate and resources. | 132 |
| LS | That's Living | Nurseryman | People or Plants | Special purpose maps | 136 |
| LS | That's Living | Nurseryman | Home Styles | Special purpose maps | 144 |
| LS | That's Living | Nurseryman | Summer, Winter, Spring, and Fall | Needs differ according to climate and seasons. | 156 |
| (Political Science) | | | | | |
| LS | That's Living | Nurseryman | Home Styles | Governments help people meet some needs. | 144 |
| (Sociology-Anthropology) | | | | | |
| CE | What's the Number? | Telephone Operator | Sit Up Straight | Values and purposes in behavior | 149 |
| CB | One Thing Leads to Another | Clergy | What Do You Think? | Contact with others is needed.<br>Community reflects assumptions and values. | 427 |
| CB | One Thing Leads to Another | Clergy | Executive Secretary | Membership in a group<br>Dependence upon others | 448 |
| DM | Try It This Way | Home Service Representative | Asking About the Community | Community needs a variety of services.<br>Contacts with others are needed. | 132 |
| DM | Try It This Way | Home Service Representative | I'll Show You How | Community reflects assumptions and values. | 145 |
| DM | Try It This Way | Home Service Representative | Keeping a File | Technology produces changes in ways of living.<br>Religious and cultural diversity | 150 |
| LS | That's Living | Nurseryman | Home Styles | Community reflects assumptions and values. | 144 |
| LS | That's Living | Nurseryman | Summer, Winter, Spring, and Fall | Lifestyles differ with time and place. | 156 |
| SD | May I Help You? | Secretary | Who Is Calling? | Individual characteristics<br>Manners | 616 |

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# Third Experience Level

## LANGUAGE ARTS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Grammar and Usage) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Riddles with Railroad Words | Uses of language<br>Nouns and verbs<br>Labeling and classifying | 170 |
| CB | Couple, Cut, and Cooperate | Brakeman | Member of the Model Freight Train Crew | Uses of language | 177 |
| CB | Places, Prices, and People | Grain Elevator Operator | Prices Go Up and Down | Symbols | 472 |
| SD | Coffee, Tea, or Milk? | Waiter/Waitress | Writing Orders | Abbreviations | 395 |
| (Listening and Speaking) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Member of the Model Freight Train Crew | Giving and taking directions | 177 |
| CB | Couple, Cut, and Cooperate | Brakeman | Anytime and Often Away | Stress and feeling in speech<br>Skits | 187 |
| CB | Places, Prices, and People | Grain Elevator Operator | Large or Small, Always Tall | Show and tell activities | 486 |
| DM | Change for Fun with Recreation | Recreation Worker | Let's Go Fly a Kite | Noting and remembering details<br>Giving and taking directions | 180 |
| DM | Change for Fun with Recreation | Recreation Worker | Tell Me a Story | Acting out stories<br>Stress and feeling in speech | 191 |
| DM | Growing Great Green Goals | Forester | Identifying Trees | Giving and taking directions | 487 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Don't Lack a Good Back | Acting out stories<br>Giving and taking directions | 182 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Mass Producing Bean Bags | Acting out stories | 188 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | How Do You Do It? | Developing discussion skills<br>Interviewing | 206 |
| SD | Life with Libraries | Librarian | Owning the Library | Developing discussion skills<br>Interviewing | 137 |
| SD | Life with Libraries | Librarian | Library Order | Developing discussion skills | 143 |
| SD | Coffee, Tea, or Milk? | Waiter/Waitress | Doing for Others | Developing discussion skills | 408 |
| (Reading) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Two Centuries of Railroading | Reading for information | 192 |
| CB | Places, Prices, and People | Grain Elevator Operator | Large or Small Always Tall | Reading for information | 486 |
| DM | Change for Fun with Recreation | Recreation Worker | Let's Go Fly a Kite | Sequence | 180 |
| DM | Growing Great Green Goals | Forester | Planting a Tree | Sequence | 480 |
| DM | Growing Great Green Goals | Forester | The Forest Community | Recognizing qualifying words | 500 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Unions | Figurative language | 201 |
| SD | Life with Libraries | Librarian | Library Order | Finding information<br>Library skills | 143 |
| SD | Life with Libraries | Librarian | Picking and Choosing | Library skills | 157 |
| (Writing Skills) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Riddles with Railroad Words | Vocabulary building | 170 |
| CB | Couple, Cut, and Cooperate | Brakeman | Member of the Model Freight Train Crew | Using codes | 177 |
| CB | Places, Prices, and People | Grain Elevator Operator | A Buying-Selling Grain Chain | Vocabulary building | 478 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Writing Skills Cont'd) | | | | | |
| DM | Growing Great Green Goals | Forester | The Forest Community | Paragraphing | 500 |
| SD | Faster, Slower, Higher, Lower | Day Care Worker | Rest Time | Composition of short poems | 645 |

## Third Experience Level

### MATHEMATICS

| | | | | | |
|---|---|---|---|---|---|
| (Facts and Operations) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Two Centuries of Railroading | Products | 192 |
| CB | Places, Prices, and People | Grain Elevator Operator | Round-About Weighing | Subtraction facts<br>Regrouping in subtraction<br>Products | 465 |
| DM | Change for Fun with Recreation | Recreation Worker | Swings and Things | Addition and subtraction of money | 174 |
| SD | Life with Libraries | Librarian | Library Order | Ordinals | 143 |
| SC | Coffee, Tea, or Milk? | Waiter/Waitress | Tipping | Addition and division of money<br>Understanding of 1/5 | 402 |
| (Figural) | | | | | |
| SD | Faster, Slower, Higher, Lower | Day Care Worker | Numbers Are Needed | Reading simple charts | 637 |
| (Measurement) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Two Centuries of Railroading | Map scale | 192 |
| CB | Places, Prices, and People | Grain Elevator Operator | Round-About Weighing | Weight | 465 |
| SD | Faster, Slower, Higher, Lower | Day Care Worker | Numbers Are Needed | Time<br>Quantity<br>Temperature | 637 |
| (Problem Solving) | | | | | |
| CB | Places, Prices, and People | Grain Elevator Operator | Prices Go Up and Down | Estimating Outcomes | 472 |
| DM | Change for Fun with Recreation | Recreation Worker | Swings and Things | Use of money concepts | 174 |
| LS | How Social Is Sewing? | Industrial Sew-Machine Operator | Mass Producing Bean Bags | Multiplication and division situations | 188 |

## Third Experience Level

### SCIENCE

| | | | | | |
|---|---|---|---|---|---|
| (Biology) | | | | | |
| DM | Growing Great Green Goals | Forester | Planting a Tree | Man can control the environment of living things. | 480 |
| DM | Growing Great Green Goals | Forester | Planning and Implementing Forest Conservation | Living things depend upon their environment. | 494 |
| DM | Growing Great Green Goals | Forester | Famous People of Forests | Man can control the environment of living things | 509 |
| LS | How Social Is Sewing? | Industrial Sew-Machine Operator | Don't Lack a Good Back | Systems of the human body<br>Skeletal muscles | 182 |
| SD | Faster, Slower, Higher, Lower | Day Care Worker | Numbers Are Needed | Living things change as they grow.<br>Animals differ in size. | 637 |
| SD | Faster, Slower, Higher, Lower | Day Care Worker | Rest Time | Different environments support different forms of life. | 645 |
| (Earth and Sky) | | | | | |
| DM | Growing Great Green Goals | Forester | Planning and Implementing Forest Conservation | The surface of the earth changes constantly. | 494 |
| (Physics) | | | | | |
| CB | Places, Prices, and People | Grain Elevator Operator | Large or Small, Always Tall | Forces move things.<br>Machines | 486 |

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| Dimension | Infusion Activity | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Physics Cont'd) | | | | | |
| DM | Change for Fun with Recreation | Recreation Worker | Safe Cycling | Machines move things. | 185 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Don't Lack a Good Back | Forces move things. | 182 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | How Do you Do It? | Machines move things.<br>Simple machines | 206 |
| (Scientific Method) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Two Centuries of Railroading | Famous scientists have made historic discoveries. | 192 |
| DM | Growing Great Green Goals | Forester | Planting a Tree | Scientific knowledge accumulates | 480 |
| DM | Growing Great Green Goals | Forester | Identifying Trees | Describe, find similarities, differences | 487 |
| DM | Growing Great Green Goals | Forester | Hardwoods and Softwoods | Describe, find similarities, differences | 504 |

## Third Experience Level

### SOCIAL STUDIES

| Dimension | Infusion Activity | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Economics) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Member of the Model Freight Train Crew | Division of labor | 177 |
| CB | Places, Prices, and People | Grain Elevator Operator | Prices Go Up and Down | Supply and demand | 472 |
| CB | Places, Prices, and People | Grain Elevator Operator | A Buying-Selling Grain Chain | Interdependence of city and rural | 478 |
| CB | Places, Prices, and People | Grain Elevator Operator | Sing A Song of Soybeans | Production of goods<br>Natural resources as bases | 482 |
| DM | Growing Great Green Goals | Forester | Planting a Tree | Different uses of environment | 480 |
| DM | Growing Great Green Goals | Forester | Planning and Implementing Forest Conservation | Different uses of environment | 494 |
| DM | Growing Great Green Goals | Forester | Famous People of Forests | Different uses of environment | 509 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Mass Producing Bean Bags | Division of labor<br>Earning money | 188 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Garments for Good Will | Needs and wants | 197 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | How Do You Do It? | Production of goods | 206 |
| SD | Coffee, Tea, or Milk? | Waiter/Waitress | Tipping | Earning money | 402 |
| (Geography) | | | | | |
| CB | Couple, Cut and Cooperate | Brakeman | Two Centuries of Railroading | Scale of miles | 192 |
| CB | Places, Prices, and People | Grain Elevator Operator | Large or Small, Always Tall | Towns and cities | 486 |
| DM | Change for Fun with Recreation | Recreation Worker | Safe Cycling | Special purpose maps | 185 |
| DM | Growing Great Green Goals | Forester | Planting a Tree | Interaction of people and environment influences the way needs are met. | 480 |
| DM | Growing Great Green Goals | Forester | Planning and Implementing Forest Conservation | Interaction between people and environment | 494 |
| DM | Growing Great Green Goals | Forester | Hardwoods and Softwoods | Special purpose maps | 504 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (History) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Two Centuries of Railroading | Great Americans in history<br>Before and after relationships | 192 |
| DM | Growing Great Green Goals | Forester | Famous People of Forests | Great Americans in history | 509 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Mass Producing Bean Bags | Great Americans in history | 188 |
| SD | Life with Libraries | Librarian | Library Order | Great Americans in history | 143 |
| (Political Science) | | | | | |
| DM | Change for Fun with Recreation | Recreation Worker | Swings and Things | Governments help people meet some needs. | 174 |
| DM | Change for Fun with Recreation | Recreation Worker | Safe Cycling | Laws regulate behavior. | 185 |
| DM | Change for Fun with Recreation | Recreation Worker | Tell Me a Story | Public services | 191 |
| SD | Life with Libraries | Librarian | Owning the Library | Public services<br>Schools (libraries) supported by taxes | 137 |
| SD | Life with Libraries | Librarian | Library Order | Rules regulate behavior. | 143 |
| (Sociology-Anthropology) | | | | | |
| CB | Couple, Cut, and Cooperate | Brakeman | Member of the Model Freight Train Crew | Dependence upon others | 177 |
| CB | Couple, Cut, and Cooperate | Brakeman | Anytime and Often Away | Values and purposes in behavior | 187 |
| CB | Places, Prices, and People | Grain Elevator Operator | A Buying-Selling Grain Chain | Community wants and needs<br>Values and purposes in behavior | 478 |
| CB | Places, Prices, and People | Grain Elevator Operator | Sing a Song of Soybeans | Technology produces changes in ways of living. | 482 |
| DM | Change for Fun with Recreation | Recreation Worker | Everybody Come! | Community wants and needs<br>Membership in a group<br>Responsibility<br>Values and purposes in behavior | 166 |
| DM | Change for Fun with Recreation | Recreation Worker | Let's Go Fly a Kite | Dependence on others | 180 |
| DM | Growing Great Green Goals | Recreation Worker | The Forest Community | Community wants and needs | 500 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Mass Producing Bean Bags | Technology produces changes in ways of living. | 188 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Garments for Good Will | Community needs a variety of services. | 197 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | Unions | Groups within the community<br>Labor unions | 201 |
| LS | How Social Is Sewing? | Industrial Sewing Machine Operator | How Do You Do It? | Technology produces changes in ways of living. | 206 |
| SD | Life with Libraries | Librarian | Owning the Library | Community needs variety of services.<br>Community reflects values. | 137 |
| SD | Life with Libraries | Librarian | Picking and Choosing | Individual characteristics<br>Values and purposes in behavior | 157 |
| SD | Coffee, Tea, or Milk? | Waiter/Waitress | Writing Orders | Dependence on others | 395 |
| SD | Coffee, Tea, or Milk? | Waiter/Waitress | Doing for Others | Groups within the community<br>Cultural diversity | 408 |
| SD | Faster, Slower, Higher, Lower | Day Care Worker | Numbers Are Needed | Community's wants and needs<br>Dependence on others<br>Individual characteristics | 637 |
| SD | Faster, Slower, Higher, Lower | Day Care Worker | Rest Time | Dependence on others<br>Individual characteristics | 645 |
| SD | Faster, Slower, Higher, Lower | Day Care Worker | Everything in Its Place | Values and purposes in behavior<br>Individual characteristics<br>Contact with others is needed. | 652 |

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# Fourth Experience Level

## LANGUAGE ARTS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Grammar and Usage) | | | | | |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Read All About It! | Uses of language | 208 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Rewriting and Headlining | Labeling and classifying | 220 |
| DM | Curiosity Created the Curator | Curator | A Few of My Favorite Things | Common and proper nouns, verbs, adjectives | 536 |
| DM | Curiosity Created the Curator | Curator | Sharing Culture Through Language | Origins of English words<br>Deviations from other languages | 540 |
| (Listening and Speaking) | | | | | |
| CB | Efficient Assistance | Dental Assistant | Dental Office Procedures | Giving and taking directions<br>Stress and feeling in speech | 217 |
| CB | Efficient Assistance | Dental Assistant | Demonstrating Toothbrushing | Giving and taking directions | 226 |
| CB | Clear the Air | Air Pollution Control Engineer | Law and Lingo | Discussion skills | 502 |
| CB | Clear the Air | Air Pollution Control Engineer | Town Meeting | Discussion skills<br>Interviewing | 508 |
| CB | Clear the Air | Air Pollution Control Engineer | Imagine That! | Role playing<br>Interviewing<br>Giving and taking directions | 519 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Read All About It! | Interviewing | 208 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Reporting | Interviewing | 215 |
| LS | Tellers, Like It Is | Bank Teller | Field Trip | Interviewing<br>Giving and taking directions<br>Noting and remembering details | 243 |
| SD | Fish Fry Anyone? | Fish Hatcher | Keeping the Balance | Developing discussion skills | 682 |
| (Reading) | | | | | |
| CB | Efficient Assistance | Dental Assistant | Demonstrating Toothbrushing | Finding information | 226 |
| CB | Efficient Assistance | Dental Assistant | Fit for a Filling | Finding information | 232 |
| CB | Clear the Air | Air Pollution Control Engineer | Law and Lingo | For information<br>Special vocabulary | 502 |
| CB | Clear the Air | Air Pollution Control Engineer | Imagine That! | For information<br>Special vocabulary | 519 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Reporting | Understanding quote marks | 215 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Rewriting and Headlining | Topics and subtopics | 220 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Heroes and Heroines of the Press | Reading for information | 225 |
| DM | Curiosity Created the Curator | Curator | Sharing Culture Through Language | Dictionary | 540 |
| LS | Tellers, Like It Is | Bank Teller | Banks from the Beginning | Finding information<br>Making judgments | 236 |
| SD | Space for Special People | Architect | Designing for Group Needs | Finding information | 171 |
| SD | Space for Special People | Architect | Language of the Draftsman | Picture reading | 178 |
| SD | Fish Fry Anyone? | Fish Hatcher | Underwater Adventure | Finding information | 669 |
| SD | Fish Fry Anyone? | Fish Hatcher | Aquarium Care | Finding information | 675 |
| (Writing Skills) | | | | | |
| CB | Efficient Assistance | Dental Assistant | Dental Office Procedures | Alphabetical order<br>Putting ideas in order | 217 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Read All About It! | Paragraphing<br>Putting ideas in order | 208 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Reporting | Paragraphing topic sentences<br>Putting ideas in order | 215 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Writing Skills Cont'd) | | | | | |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Rewriting and Headlining | Paragraphing<br>Putting ideas in order | 220 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Printing Machines | Spelling<br>Putting ideas in order | 239 |
| LS | Tellers, Like It Is | Bank Teller | Field Trip | Note-taking | 243 |

# Fourth Experience Level

## MATHEMATICS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Facts and Operations) | | | | | |
| CB | Efficient Assistance | Dental Assistant | Dental Office Procedures | Addition of money | 217 |
| CB | Efficient Assistance | Dental Assistant | Demonstrating Toothbrushing | All addition facts | 226 |
| LS | Tellers, Like It Is | Bank Teller | Checking Accounts | Addition and subtraction | 224 |
| (Figural) | | | | | |
| SD | Space for Special People | Architect | Language of the Draftsman | Scale drawings | 178 |
| (Measurement) | | | | | |
| DM | Curiosity Created the Curator | Curator | Curator's Helper | Metric | 532 |
| SD | Space for Special People | Architect | Language of the Draftsman | Map scale | 178 |
| SD | Attendant Economics | Service Station Attendant | Money and Measures | Precision to nearest unit<br>Factional parts | 430 |
| (Problem Solving) | | | | | |
| LS | Tellers, Like It Is | Bank Teller | Checking Accounts | Earning, spending, saving money<br>Multi-step problems | 224 |
| LS | Tellers, Like It Is | Bank Teller | Savings Accounts | Earning, spending, saving money<br>Two-step problems | 230 |
| SD | Attendant Economics | Service Station Attendant | Money and Measures | Two-step problems<br>Averages<br>Comparisons<br>Saving and spending money | 430 |

# Fourth Experience Level

## SCIENCE

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Biology) | | | | | |
| CB | Efficient Assistance | Dental Assistant | Battle Against Bad Bacteria | Different environments support different forms of life. | 210 |
| CB | Clear the Air | Air Pollution Control Engineer | Town Meeting | Man can choose and change his habitat.<br>Living things depend upon environment. | 508 |
| CB | Clear the Air | Air Pollution Control Engineer | The Air Cycle | Living things need air. | 515 |
| DM | Curiosity Created the Curator | Curator | Museums Protect and Preserve | Different environments support different forms of life. | 544 |
| SD | Fish Fry Anyone? | Fish Hatcher | Underwater Adventure | Different environments support different forms of life. | 669 |
| SD | Fish Fry Anyone? | Fish Hatcher | Aquarium Care | Man can control the environments of living things. | 675 |
| SD | Fish Fry Anyone? | Fish Hatcher | Keeping the Balance | Man can control the environments of living things. | 682 |
| (Chemistry) | | | | | |
| DM | Curiosity Created the Curator | Curator | Museums Protect and Preserve | Chemical changes involve rearrangement of atoms and molecules. | 544 |
| (Earth and Sky) | | | | | |
| CB | Clear the Air | Air Pollution Controll Engineer | The Air Cycle | Atmosphere affects sun's radiation.<br>Descriptions of atmosphere<br>Water and air interactions | 515 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Physics) | | | | | |
| SD | Attendant Economics | Service Station Attendant | Workers' Viewpoints | Forces move things.<br>Tools and utensils<br>Functions of shape<br>Energy can change form. | 436 |
| SD | Fish Fry Anyone? | Fish Hatcher | Aquarium Care | Forces move things. | 675 |
| (Scientific Method) | | | | | |
| CB | Efficient Assistance | Dental Assistant | Battle Against Bad Bacteria | Ask questions, find answers<br>Famous scientists have made historic discoveries. | 210 |
| CB | Efficient Assistance | Dental Assistant | Fit for a Filling | Describe, find similarities and differences<br>Classification | 232 |
| CB | Clear the Air | Air Pollution Control Engineer | Town Meeting | Special instruments<br>Investigative and evaluative techniques | 508 |
| CB | Clear the Air | Air Pollution Control Engineer | The Air Cycle | Investigative and evaluative techniques.<br>Special instruments<br>Comparisons | 515 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Printing Machines | Famous scientists have made historic discoveries. | 239 |
| DM | Curiosity Created the Curator | Curator | Curator's Helper | Comparisons are made by careful measurements. | 532 |
| DM | Curiosity Created the Curator | Curator | A Few of My Favorite Things | Things are classified according to likenesses. | 536 |
| SD | Attendant Economics | Service Station Attendant | Money and Measures | Evaluative techniques<br>Special instruments to observe | 430 |
| SD | Fish Fry Anyone? | Fish Hatcher | Underwater Adventure | Things are classified according to likenesses. | 669 |

## Fourth Experience Level

### SOCIAL STUDIES

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Economics) | | | | | |
| CB | Efficient Assistance | Dental Assistant | Dental Office Procedures | Division of labor | 217 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Read All About It! | Supply and demand | 208 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Rewriting and Headlining | Transportation of information | 220 |
| LS | Tellers, Like It Is | Bank Teller | Checking Accounts | Banks<br>Difference between goods and services | 224 |
| LS | Tellers, Like It Is | Bank Teller | Savings Accounts | Banks<br>Difference between goods and services | 230 |
| LS | Tellers, Like It Is | Bank Teller | Banks from the Beginning | Banks<br>Governments influence economic development. | 236 |
| SD | Attendant Economics | Service Station Attendant | Workers' Viewpoints | Population influences demand.<br>Division of labor<br>Production of goods and services | 436 |
| SD | Attendant Economics | Service Station Attendant | From There to Here to There | Transportation of goods<br>Using natural resources. | 441 |
| SD | Fish Fry Anyone? | Fish Hatcher | Keeping the Balance | Using natural resources<br>Different uses of environments | 682 |
| (Geography) | | | | | |
| SD | Space for Special People | Architect | Designing for Group Needs | Modification of environments | 171 |
| SD | Attendant Economics | Service Station Attendant | From There to Here to There | Site helps to determine character of locale.<br>Interaction of people and environments | 441 |
| (History) | | | | | |
| CB | Efficient Assistance | Dental Assistant | Battle Against Bad Bacteria | Changes in ways of living result in changed expectations. | 210 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Heroes and Heroines of the Press | Great Americans in history<br>Acts and events have consequences. | 225 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (History Cont'd) | | | | | |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Freedom of the Press | Modern life has roots in the past. | 232 |
| DM | Curiosity Created the Curator | Curator | Mini-Museum | Human experience is continuous.<br>Modern life has roots in past. | 526 |
| LS | Teller, Like It Is | Bank Teller | Banks from the Beginning | Modern life has roots in the past.<br>Societies have changed and are changing.<br>American values and traditions | 236 |
| SD | Space for Special People | Architect | Architect's License | Before and after relationships | 186 |
| SD | Attendant Economics | Service Station Attendant | From There to Here to There | Modern life has roots in the past.<br>Consequences in other times and places | 441 |
| (Political Science) | | | | | |
| CB | Clear the Air | Air Pollution Control Engineer | Law and Lingo | Rules for interaction<br>Government services<br>Laws regulate behavior.<br>Community rights and requirements | 502 |
| CB | Clear the Air | Air Pollution Control Engineer | Town Meeting | Laws regulate behavior.<br>Community rights and requirements | 508 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Freedom of the Press | Rules for interaction needed by groups<br>U. S. Constitution as basis for laws | 232 |
| SD | Space for Special People | Architect | Architect's License | Rules for interaction needed by groups | 186 |
| (Sociology-Anthropology) | | | | | |
| CB | Efficient Assistance | Dental Assistant | Battle Against Bad Bacteria | Technology produces changes in ways of living. | 210 |
| CB | Efficient Assistance | Dental Assistant | Dental Office Procedures | Community needs a variety of services. | 217 |
| CB | Clear the Air | Air Control Polution Engineer | Town Meeting | Values and purposes in behavior<br>Individuality and responsibility | 508 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Read All About It! | Community wants and needs<br>Newspapers | 208 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Reporting | Contact with others is needed.<br>Newspapers | 215 |
| DM | Risks in Newspaper Reporting | Newspaper Reporter | Printing Machines | Technology produces changes in ways of living. | 239 |
| DM | Curiosity Created the Curator | Curator | Mini-Museum | Culture interrelationships<br>People have similar basic needs. | 526 |
| DM | Curiosity Created the Curator | Curator | Curator's Helper | Dependence upon others | 532 |
| DM | Curiosity Created the Curator | Curator | Sharing Culture Through Language | Culture interrelationships | 540 |
| LS | Tellers, Like It Is | Bank Teller | Checking Accounts | Community needs variety of services. | 224 |
| LS | Tellers, Like It Is | Bank Teller | Savings Account | Community needs variety of services. | 230 |
| LS | Tellers, Like It Is | Bank Teller | Banks from the Beginning | Lifestyles differ with time and place.<br>Values and purposes in behavior<br>Community's wants and needs | 236 |
| SD | Space for Special People | Architect | Designing for Group Needs | Community wants and needs<br>Housing | 171 |
| SD | Attendant Economics | Service Station Attendant | Money and Measures | Values and purposes<br>Individuality and responsibility | 430 |
| SD | Attendant Economics | Service Station Attendant | Workers' Viewpoints | Community wants and needs<br>Individual characteristics<br>Values and purposes | 436 |
| SD | Attendant Economics | Service Station Attendant | From There to Here to There | Community needs variety of services.<br>Community reflects assumptions and values.<br>Neighborhoods have character | 441 |
| SD | Fish Fry Anyone? | Fish Hatcher | Underwater Adventure | Differences due to climate, resources, locations | 669 |
| SD | Fish Fry Anyone? | Fish Hatcher | Aquarium Care | Values and purposes in behavior | 675 |

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# Fifth Experience Level

## LANGUAGE ARTS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Grammar and Usage) | | | | | |
| CB | Reckoning and Relocating | Accountant | Greener Grass? | Labeling and Classifying | 552 |
| DM | How the Ads Add Up | Advertising Copywriter | Analysis of Advertisements | Classifying | 559 |
| LS | Building with Style | Carpenter | Construction Project | Labeling and Classifying | 265 |
| (Listening and Speaking) | | | | | |
| CB | Universal Melodies | Musician | Fixing Faults | Playing roles with dialogue<br>Stress and feeling in speech<br>Discussion skills | 256 |
| CB | Universal Melodies | Musician | World of Music | Interviewing | 268 |
| CB | Reckoning and Relocating | Accountant | Keeping Track | Giving and taking directions<br>Noting and remembering details | 541 |
| CB | Reckoning and Relocating | Accountant | Here's a Switch | Discussion skills<br>Role playing<br>Interviewing | 547 |
| CB | Reckoning and Relocating | Accountant | Greener Grass? | Interviewing | 552 |
| DM | How the Ads Add Up | Advertising Copywriter | Analysis of Advertisements | Discussion | 559 |
| DM | How the Ads Add Up | Advertising Copywriter | Advertiser and Client | Role play with dialogue | 566 |
| DM | How the Ads Add Up | Advertising Copywriter | Cigarette Perspectives | Discussion | 576 |
| DM | How the Ads Add Up | Advertising Copywriter | Attracting New Employees | Role play with dialogue | 579 |
| LS | Building with Style | Carpenter | Construction Project | Giving and taking directions | 265 |
| LS | Building with Style | Carpenter | Carpenter Roles | Playing roles with dialogue<br>Interviewing<br>Listen for comprehension | 277 |
| SD | Growing Pains and Pleasures | Pediatrician | Parent Panel | Discussion skills | 218 |
| SD | Changing Places | Travel Agent | Cook's Tours | Playing roles<br>Formal and informal language<br>Giving and taking directions<br>Stress and feeling in speech | 462 |
| SD | Aptly Announcing | TV Announcer | Trippingly on the Tongue | Formal and informal language<br>Control pitch, volume, tone<br>Stress and feeling<br>Avoiding excessive extra sounds | 701 |
| SD | Aptly Announcing | TV Announcer | Action! Camera! | Role playing<br>Formal and informal language<br>Control of speech<br>Stress and feeling | 715 |
| (Reading) | | | | | |
| CB | Universal Melodies | Musician | World of Music | Finding information | 268 |
| DM | Links with the Soil | Soil Conservationist | How's and Why's | Making inferences<br>Appreciating moods of characters | 265 |
| DM | How the Ads Add Up | Advertising Copywriter | Analysis of Advertising | For information<br>Making inferences | 559 |
| DM | How the Ads Add Up | Advertising Copywriter | Cigarette Perspectives | Making inferences | 576 |
| LS | Building with Style | Carpenter | Living a Style | Making inferences<br>Generalizations<br>Visual imagination | 260 |
| LS | Building with Style | Carpenter | Then and Now | Making inferences<br>Finding information | 271 |
| LS | Building with Style | Carpenter | Carpenter Roles | Note-taking | 277 |
| (Writing Skills) | | | | | |
| DM | Links with the Soil | Soil Conservationist | How's and Why's | Putting ideas in order<br>Characterization and plot | 265 |
| DM | How the Ads Add Up | Advertising Copywriter | Advertiser and Client | Advertisements | 566 |
| DM | How the Ads Add Up | Advertising Copywriter | Cigarette Perspectives | Changing points of view | 576 |
| DM | How the Ads Add Up | Advertising Copywriter | Attracting New Employees | Advertisements | 579 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Writing Skills Cont'd) | | | | | |
| LS | Building with Style | Carpenter | Living a Style | Descriptions | 260 |
| LS | Building with Style | Carpenter | Then and Now | Completing open-ended stories<br>Changing points of view | 271 |
| LS | Building with Style | Carpenter | Carpenter Roles | Points of view<br>Writing descriptions | 277 |
| SD | Aptly Announcing | TV Announcer | Action! Camera! | Changing points of view<br>Characterization and plot<br>Writing quotations | 715 |

## Fifth Experience Level

### MATHEMATICS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Facts and Operations) | | | | | |
| CB | Universal Melodies | Musician | Musical Math | Changing terms of a fraction | 262 |
| (Figural) | | | | | |
| CB | Reckoning and Relocating | Accountant | Keeping Track | Graphs | 541 |
| CB | Reckoning and Relocating | Accountant | Greener Grass? | Tables and graphs | 552 |
| LS | Building with Style | Carpenter | Living a Style | Scale drawing | 260 |
| SD | Growing Pains and Pleasures | Pediatrician | Are You a Square? | Tables and graphs | 211 |
| (Geometry) | | | | | |
| LS | Building with Style | Carpenter | Construction Project | Angles, perpendiculars | 265 |
| (Measurement) | | | | | |
| LS | Building with Style | Carpenter | Living a Style | Area<br>Precision in measuring | 260 |
| LS | Building with Style | Carpenter | Construction Project | Length and area | 265 |
| SD | Growing Pains and Pleasures | Pediatrician | Are You a Square | Precision to nearest unit<br>Fractional parts of units | 211 |
| SD | Changing Places | Travel Agent | Pathfinding Practice | Length<br>Time<br>Rate of speed | 466 |
| (Problem Solving) | | | | | |
| CB | Universal Melodies | Musician | Musical Math | Use of fractional numbers | 262 |
| CB | Reckoning and Relocating | Accountant | Cash Accounting | Earning, saving, spending money<br>Keeping accounts<br>Buying and selling | 535 |
| CB | Reckoning and Relocating | Accountant | Keeping Track | Keeping accounts | 541 |
| SD | Changing Places | Travel Agent | Pathfinding Practice | Multiple-step problems<br>Comparisons<br>Money concepts | 456 |

## Fifth Experience Level

### SCIENCE

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Biology) | | | | | |
| DM | Links with the Soil | Soil Conservationist | Little Drops of Water | Control of environment of living things | 256 |
| DM | Links with the Soil | Soil Conservationist | The Law of the Land | Control of environment of living things | 262 |
| SD | Growing Pains and Pleasures | Pediatrician | Children's Health | Human body functions<br>Systems and organs of the body | 205 |
| SD | Growing Pains and Pleasures | Pediatrician | Are You a Square? | Living things change as they grow. | 211 |
| SD | Growing Pains and Pleasures | Pediatrician | Parent Panel | Living things change as they grow. | 219 |
| (Earth and Sky) | | | | | |
| DM | Links with the Soil | Soil Conservationist | Little Drops of Water | Soil can be conserved.<br>Erosion and depletion of soil | 256 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Earth and Sky Cont'd) | | | | | |
| DM | Links with the Soil | Soil Conservationist | The Lay of the Land | Soil can be conserved.<br>Erosion and depletion of soil | 262 |
| DM | Links with the Soil | Soil Conservationist | How's and Why's | Soil can be conserved.<br>Erosion and depletion of soil | 265 |
| (Scientific Method) | | | | | |
| DM | Links with the Soil | Soil Conservationist | A Special Tool | Investigative techniques<br>Special instruments<br>Categorization | 270 |
| SD | Growing Pains and Pleasures | Pediatrician | Children's Health | Comparisons made by measurements<br>Special instruments help us observe.<br>Use of senses to gather data | 205 |
| SD | Growing Pains and Pleasures | Pediatrician | Parent Panel | Similarities and differences | 218 |

## Fifth Experience Level

### SOCIAL STUDIES

| | | | | | |
|---|---|---|---|---|---|
| (Economics) | | | | | |
| CB | Reckoning and Relocating | Accountant | Here's a Switch | Moving for economic motives<br>Supply and demand | 547 |
| CB | Reckoning and Relocating | Accountant | Greener Grass? | Supply and demand<br>Division of labor<br>Community workers | 552 |
| DM | Links with the Soil | Soil Conservationist | Other Conservationists | Different uses of environment<br>Technology produces changes.<br>Interdependence of geographical regions | 276 |
| DM | How the Ads Add Up | Advertising Copywriter | Original Product | Supply and demand<br>Using natural resources | 572 |
| DM | How the Ads Add Up | Advertising Copywriter | Cigarette Perspectives | Government regulations | 576 |
| LS | Building with Style | Carpenter | Living a Style | Division of labor<br>Supply and demand<br>Goods and services | 260 |
| SD | Changing Places | Travel Agent | Whither Thou Goest | Interdependence of regions<br>Using natural resources<br>Different uses of environments | 457 |
| SD | Aptly Announcing | TV Announcer | Guys Behind the Guys Behind the Mike | Role differentiations<br>Interdependence | 707 |
| (Geography) | | | | | |
| LS | Building with Style | Carpenter | Then and Now | Latin America<br>Needs differ with climate and resources. | 271 |
| SD | Changing Places | Travel Agent | Whither Thou Goest | Global locations<br>Climate and topography<br>Interaction between people and environments | 457 |
| SD | Changing Places | Travel Agent | Pathfinding Practice | Routes on maps<br>Scale of miles | 466 |
| (History) | | | | | |
| CB | Universal Melodies | Musician | Makers of Music | Human life is continuous and interrelated. | 249 |
| CB | Reckoning and Relocating | Accountant | Keeping Track | Changes in ways of living result in changed expectations.<br>Modern life has roots in the past. | 541 |
| DM | Links with the Soil | Soil Conservationist | The Lay of the Land | Acts and events have consequences | 262 |
| LS | Building with Style | Carpenter | Then and Now | Relation of geography and history<br>U. S. History<br>Societies have changed.<br>American values | 271 |
| SD | Growing Pains and Pleasures | Pediatrician | Parent Panel | Personal memories<br>Present, past, future | 218 |
| (Political Science) | | | | | |
| CB | Reckoning and Relocating | Accountant | Keeping Track | Rules for interaction<br>Effects of common goals | 541 |
| SD | Changing Places | Travel Agent | Cook's Tours | Building rules<br>Rules for interaction | 462 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Sociology-Anthropology) | | | | | |
| CB | Universal Melodies | Musician | Makers of Music | Cultural diversity<br>Community reflects values.<br>Individuality | 249 |
| CB | Universal Melodies | Musician | World of Music | Cultural diversity<br>Community reflects assumptions and values<br>Different means to similar ends | 268 |
| CB | Reckoning and Relocating | Accountant | Here's a Switch | Individual characteristics<br>Values and purposes | 547 |
| CB | Reckoning and Relocating | Accountant | Greener Grass? | Values and purposes | 552 |
| DM | Links with the Soil | Soil Conservationist | Other Conservationists | Individual characteristics<br>Values and purposes in behavior | 276 |
| DM | How the Ads Add Up | Advertising Copywriter | Original Product | Community's wants and needs<br>Technology produces changes.<br>Neighborhoods have character. | 572 |
| DM | How the Ads Add Up | Advertising Copywriter | Cigarette Perspectives | Values and purposes in behavior<br>Common wants and needs | 576 |
| LS | Building with Style | Carpenter | Then and Now | Housing<br>Similar basic needs<br>Inherited cultures influence present.<br>Community reflects values. | 271 |
| SD | Growing Pains and Pleasures | Pediatrician | Children's Health | Individual characteristics<br>Dependence upon others | 205 |
| SD | Growing Pains and Pleasures | Pediatrician | Are You a Square? | Individual characteristics | 211 |
| SD | Growing Pains and Pleasures | Pediatrician | Parent Panel | Cultural diversity<br>Similar basic needs<br>Different means to similar ends | 218 |
| SD | Changing Places | Travel Agent | Whither Thou Goest | Lifestyles differ with time and place.<br>Technology produces changes in ways of living. | 457 |
| SD | Changing Places | Travel Agent | Pathfinding Practice | Individual characteristics<br>Changing conditions and changing values. | 466 |
| SD | Aptly Announcing | TV Announcer | Trippingly on the Tongue | Individuality and responsibility<br>Group interactions | 701 |
| SD | Aptly Announcing | TV Announcer | Guys Behind the Guys Behind the Mike | Technology changes ways of living.<br>Group interactions | 707 |

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# Sixth Experience Level

## LANGUAGE ARTS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Grammar and Usage) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Check Up Time | Labeling and classifying | 284 |
| SD | Know Thy Chickens | Poultry Farmer | Chicken Game | Labeling and classifying | 233 |
| SD | Know Thy Chickens | Poultry Farmer | Poultry Products | Labeling and classifying | 239 |
| (Listening and Speaking) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Check Up Time | Giving and taking directions | 284 |
| CB | Tales of Sales | Retail Sales Clerk | Clerk Work | Role playing<br>Giving and taking directions<br>Noting and remembering details | 290 |
| CB | Tales of Sales | Retail Sales Clerk | Clerks of All Kinds | Discussion skills<br>Noting details | 294 |
| CB | Environments for Efficiency | Industrial Engineer | Space and Stuff | Discussion skills<br>Giving and taking directions | 579 |
| CB | Environments for Efficiency | Industrial Engineer | Time Study | Discussion skills<br>Giving and taking directions | 584 |
| DM | A State of Really Selling | Real Estate Salesman | Loan Amortization | Playing roles with dialogue | 290 |
| DM | A State of Really Selling | Real Estate Salesman | Neighborhood Canvass | Interviewing<br>Reporting | 297 |
| DM | Search and Solve | Detective | Perception Practice | Discussion<br>Giving and taking directions | 593 |
| DM | Search and Solve | Detective | Interview | Interviewing<br>Discussion<br>Listening<br>Role playing with dialogue | 598 |
| DM | Search and Solve | Detective | The Detective Story | Discussion<br>Listening | 602 |
| SD | Know Thy Chickens | Poultry Farmer | Chicken Game | Discussion skills<br>Noting and remembering details | 233 |
| SD | Know Thy Chickens | Poultry Farmer | Poultry Products | Discussion skills | 239 |
| SD | Know Thy Chickens | Poultry Farmer | Touch of Drama | Playing roles with dialogue<br>Pantomime<br>Discussion skills | 243 |
| SD | Keep on Truckin' | Truck Driver | Some Horses' Mouths | Listen for comprehension<br>Discussion skills<br>Interviewing | 729 |
| (Reading) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Pinpoint Pattern | For information | 299 |
| CB | Environments for Efficiency | Industrial Engineer | World of Engineering | For information<br>Reference sources | 568 |
| CB | Environments for Efficiency | Industrial Engineer | Through the Years | For information<br>Making inferences | 574 |
| DM | A State of Really Selling | Real Estate Salesman | Spreading the Word | Making inferences | 302 |
| LS | Leisure and Labor at Sea | Oceanographer | Fact and Fiction | Judgments of stories, characters<br>Visual imagination<br>For information<br>Noting tone and mood | 314 |
| SD | Know Thy Chickens | Poultry Farmer | Chicken Game | For information<br>Library skills<br>Topics and subtopics | 233 |
| (Writing Skills) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Clerks of All Kinds | Reports from research | 294 |
| DM | A State of Really Selling | Real Estate Salesman | Spreading the Word | Advertisements | 302 |
| DM | Search and Solve | Detective | Perception Practice | Descriptions | 593 |
| DM | Search and Solve | Detective | The Detective Story | Descriptions | 602 |
| LS | Leisure and Labor at Sea | Oceanographer | Marine Life | Characterization and plot | 298 |
| LS | Leisure and Labor at Sea | Oceanographer | Fact and Fiction | Vocabulary building | 314 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Writing Skills Cont'd) | | | | | |
| SD | Know Thy Chickens | Poultry Farmer | Chicken Game | Writing a summary<br>Outlining<br>Paragraphing<br>Note-taking | 231 |
| SD | Keep on Truckin' | Truck Driver | Some Horses' Mouths | Characterization and plot Descriptions | 729 |

## Sixth Experience Level

### MATHEMATICS

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Facts and Operations) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Check Up Time | Counting, grouping | 284 |
| DM | A State of Really Selling | Real Estate Salesman | Loan Amortization | Percents | 290 |
| LS | Leisure and Labor at Sea | Oceanographer | The Ocean's Water | Decimal fractions<br>Percents | 304 |
| (Figural) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Check Up Time | Graphs, tables | 284 |
| DM | A State of Really Selling | Real Estate Salesman | Loan Amortization | Tables of data | 290 |
| DM | A State of Really Selling | Real Estate Salesman | Spreading the Word | Scale drawing | 302 |
| SD | Keep on Truckin' | Truck Driver | Over-the-Road | Graphs | 735 |
| (Measurement) | | | | | |
| DM | A State of Really Selling | Real Estate Salesman | Spreading the Word | Area | 302 |
| SD | Influential Ingredients | Chef/Cook | Behind the Scenes | Precision in measuring | 489 |
| (Problem Solving) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Check Up Time | Keeping accounts<br>Money concepts | 284 |
| CB | Tales of Sales | Retail Sales Clerk | Clerk Work | Money concepts<br>Percents | 290 |
| DM | A State of Really Selling | Real Estate Salesman | Loan Amortization | Multiple-step problems | 290 |
| DM | A State of Really Selling | Real Estate Salesman | Neighborhood Canvass | Averages | 297 |
| LS | Leisure and Labor at Sea | Oceanographer | The Ocean's Water | Comparisons<br>Multiple-step problems | 304 |
| SD | Keep on Truckin' | Truck Driver | Over-the-Road | Estimating outcomes<br>Ratio<br>Multiple-step problems<br>Money concepts | 735 |

## Sixth Experience Level

### SCIENCE

| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Biology) | | | | | |
| LS | Leisure and Labor at Sea | Oceanographer | Underwater Observations | Animals and plants range from one-celled to complex.<br>Living things adapt to environment.<br>Man can control environments of living things.<br>Animals differ in size and structure | 293 |
| LS | Leisure and Labor at Sea | Oceanographer | Marine Life | Animals differ in size, structure, movement.<br>Living things grow.<br>Living things adapt to environment.<br>Living things need food, air, waste disposal; reproduce. | [illegible] |
| SD | Know Thy Chickens | Poultry Farmer | Chicken Game | Living things need food, air, waste disposal; reproduce.<br>Man can control environments of living things. | |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Biology Cont'd) | | | | | |
| SD | Influential Ingredients | Chef/Cook | Menu Musings | Living things need food and water.<br>Cells develop into tissues and organs.<br>Concepts related to disease<br>Human body systems | 481 |
| SD | Influential Ingredients | Chef/Cook | Behind the Scenes | Concepts related to microbes, disease, vaccination<br>Living things need food, air. | 489 |
| (Chemistry) | | | | | |
| LS | Leisure and Labor at Sea | Oceanographer | The Ocean's Water | Material things are gas, liquid, solid.<br>Matter is composed of atoms and molecules.<br>Elements have one type of atom in a molecule. | 304 |
| (Scientific Method) | | | | | |
| LS | Leisure and Labor at Sea | Oceanographer | Underwater Observations | Use of senses to gather data<br>Categorizations | 293 |
| LS | Leisure and Labor at Sea | Oceanographer | Marine Life | Describe similarities and differences | 298 |
| LS | Leisure and Labor at Sea | Oceanographer | Famous People of the Sea | Investigative and evaluative techniques<br>Specialized instruments<br>Famous scientists made discoveries.<br>New fields of investigation | 308 |
| LS | Leisure and Labor at Sea | Oceanographer | Fact and Fiction | Scientific knowledge accumulates.<br>Famous scientists made discoveries.<br>New fields of investigation | 314 |
| SD | Influential Ingredients | Chef/Cook | Menu Musings | Categorizations | 481 |
| SD | Influential Ingredients | Chef/Cook | Behind the Scenes | Scientific knowledge accumulates. | 489 |
| SD | Keep on Truckin' | Truck Driver | Over-the-Road | Categorizations | 735 |

## Sixth Experience Level

### SOCIAL STUDIES

| | | | | | |
|---|---|---|---|---|---|
| (Economics) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Check Up Time | Stores<br>Needs and wants<br>Role differentiation | 284 |
| CB | Tales of Sales | Retail Sales Clerk | Clerk Work | Stores<br>Role differentiation | 290 |
| CB | Tales of Sales | Retail Sales Clerk | Clerks of All Kinds | Goods and services<br>Role differentiation<br>Interdependence<br>Stores | 294 |
| CB | Environments for Efficiency | Industrial Engineer | World of Engineering | Goods and services<br>Division of labor<br>Uses of environment<br>Supply and demand | 568 |
| CB | Environments for Efficiency | Industrial Engineer | Through the Years | Labor unions<br>Governmental regulations<br>Production of goods and services<br>Labor systems | 574 |
| DM | A State of Really Selling | Real Estate Salesman | Title Transfer | Competition for resources | 308 |
| LS | Leisure and Labor at Sea | Oceanographer | Famous People of the Sea | Using natural resources | 308 |
| SD | Know Thy Chickens | Poultry Farmer | Chicken Game | Division of labor<br>Production of goods and services<br>Interdependence of city and rural | 233 |
| SD | Know Thy Chickens | Poultry Farmer | Poultry Products | Supply and demand<br>Transportation of goods<br>Interdependence of city and rural<br>Division of labor | 239 |
| SD | Know Thy Chickens | Poultry Farmer | Touch of Drama | Division of labor<br>Goods and services<br>Interdependence of city and rural | 243 |
| SD | Influential Ingredients | Chef/Cook | Behind the Scenes | Division of labor<br>Goods and services<br>Labor systems<br>Use of resources and capital | 489 |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Economics Cont'd) | | | | | |
| SD | Keep on Truckin' | Truck Driver | Some Horses' Mouths | Division of labor<br>Goods and services<br>Transportation of goods<br>Interdependence | 729 |
| (Geography) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Pinpoint Patterns | Map keys<br>Special purpose maps | 299 |
| LS | Leisure and Labor at Sea | Oceanographer | Famous People of the Sea | Man-made environmental changes | 308 |
| SD | Know Thy Chickens | Poultry Farmer | Touch of Drama | Interaction between people and environments<br>Modification of environments | 243 |
| SD | Keep on Truckin' | Truck Driver | Over-the-Road | Trace routes on maps<br>Scale of miles<br>Map keys | 735 |
| (History) | | | | | |
| CB | Environments for Efficiency | Industrial Engineer | Through the Years | Industrial Revolution<br>Rate of change<br>Relation of geography and history<br>Modern life has roots in the past. | 574 |
| DM | A State of Really Selling | Real Estate Salesman | Title Transfer | Modern life has roots in the past. | 308 |
| LS | Leisure and Labor at Sea | Oceanographer | Famous People of the Sea | Human experience is continuous and interrelated. | 308 |
| LS | Leisure and Labor at Sea | Oceanographer | Fact and Fiction | Exploration<br>Human experience is continuous and interrelated.<br>Relation of geography and history | 314 |
| (Political Science) | | | | | |
| CB | Environments for Efficiency | Industrial Engineer | World of Engineering | Authority structures<br>Rules for interaction<br>Community rights and requirements | 568 |
| CB | Environments for Efficiency | Industrial Engineer | Space and Stuff | School rules<br>Community rights and requirements<br>Effects of common goals | 579 |
| CB | Environments for Efficiency | Industrial Engineer | Time Study | School rules<br>Community rights and requirements<br>Traditional values, beliefs | 584 |
| DM | A State of Really Selling | Real Estate Salesman | Title Transfer | Rules for interaction | 308 |
| DM | Search and Solve | Detective | Tools of the Trade | Rules for interaction<br>Constitutional basis for law | 606 |
| SD | Keep on Truckin' | Truck Driver | Rules of the Road | Government services<br>Laws regulate behavior. | 740 |
| (Sociology-Anthropology) | | | | | |
| CB | Tales of Sales | Retail Sales Clerk | Pinpoint Patterns | Community's wants and needs<br>Community reflects assumptions and values. | 299 |
| CB | Environments for Efficiency | Industrial Engineer | Space and Stuff | Individuals and groups are interdependent.<br>Changing conditions produce changing values. | 579 |
| CB | Environments for Efficiency | Industrial Engineer | Time Study | Changing conditions produce changing values.<br>Individuals and groups are interdependent. | 584 |
| DM | A State of Really Selling | Real Estate Salesman | Neighborhood Canvass | Housing<br>Values and purposes in behavior | 297 |
| DM | A State of Really Selling | Real Estate Salesman | Title Transfer | Individual characteristics<br>Values and purposes in behavior | 308 |
| DM | Search and Solve | Detective | Tools of the Trade | Technology produces changes.<br>Individual characteristics<br>Variety of services | 606 |
| SD | Influential Ingredients | Chef/Cook | Menu Musings | Individual characteristics<br>Values and purposes | [illegible] |
| SD | Influential Ingredients | Chef/Cook | Behind the Scenes | Individual characteristics<br>Values and purposes | [illegible] |
| SD | Influential Ingredients | Chef/Cook | The Home Front | Membership in a group<br>Individuality and responsibility<br>Values and purposes<br>Technology produces changes in ways of living.<br>Similar basic needs | [illegible] |

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| Dimension | Infusion Strategy | Occupation | Activity | Subject Matter | Page |
|---|---|---|---|---|---|
| (Sociology-Anthroology Cont'd) | | | | | |
| SD | Keep on Truckin' | Truck Driver | Some Horses' Mouths | Community's wants and needs<br>Dependence on others | 729 |
| SD | Keep on Truckin' | Truck Driver | Over-the-Road | Membership in a group<br>Individuality and responsibility | 735 |
| SD | Keep on Truckin' | Truck Driver | Rules of the Road | Technology changes ways of living.<br>Community's wants and needs | 740 |

# Appendix B

## Final Evaluation Report by Third-Party Evaluation Team

# FINAL EVALUATION REPORT

of the

"Enrichment of Teacher and Counselor Competencies
in Career Education K-6" Project

A Project Conducted by

The Center for Educational Studies
Eastern Illinois University
Charleston, Illinois

In Cooperation With
The Curriculum Center for
Occupational and Adult Education,
Bureau of Adult, Vocational and Technical Education
United States Office of Education
Washington, D.C.

Dr. Marla Petersen
Project Director

Evaluation Conducted by

Daniel B. Dunham, Salem, Oregon
Robert F. Barnes, Aurora, Colorado
Jon E. Glau, Aurora, Colorado
Richard H. Edsall, Denver, Colorado
D. Glen Rask, Fort Collins, Colorado

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# FINAL EVALUATION REPORT

# OF THE

# "ENRICHMENT OF TEACHER AND COUNSELOR COMPETENCIES IN CAREER EDUCATION PROJECT (ETC)"

## CHAPTER I

## INTRODUCTION AND BACKGROUND REVIEW

A. This is the final report of third-party evaluation of the "Enrichment of Teacher and Counselor Competencies in Career Education Project", conducted by the third party evaluation team. Members of the team included:

*Dr. Daniel B. Dunham
Coordinator, Special Career Education Programs
State Department of Education
Salem, Oregon

*Dr. Robert Barnes
Director, Research Coordinating Unit
Board of Community Colleges & Occupational Education
Denver, Colorado

Dr. Jon E. Glau
Assistant Director for Curriculum and Instruction
Board of Community Colleges and Occupational Education
Denver, Colorado

Dr. Richard Edsall
Assistant Director for Professional Development
Board of Community Colleges and Occupational Education
Denver, Colorado

Dr. Glen Rask
Colorado State University
Ft. Collins, Colorado

*Primary Evaluators

This report provides a chronological review of evaluation activities, includes complete reports of three on-site evaluations conducted on:

December 15-16, 1972
August 27-28, 1973
February 14-15, 1974

and includes an integrated report of the fourth and final on-site evaluation visit conducted by Dan Dunham and Jon Glau on May 5-6, 1974.

B. In response to a Request for Proposals due October 30, 1973 (See Figure 23, Project Final Report), Dunham-Barnes and Associates prepared a proposal (See Appendix A) which was selected by project administration from among six proposals submitted. The time frame for the evaluation was November 15, 1972 to June 1, 1974.

A third-party evaluation contract was subsequently awarded to Dunham, Barnes, and Associates for the alternative proposal shown in Appendix A (for a total budget of $7,500). Agreement was achieved between third-party evaluators and project administration regarding number of on-site visits and role and functions of third-party evaluators during the first on-site evaluation on December 15-16, 1972.

C. The first on-site visitation, conducted by Dunham-Barnes, on December 15-16, 1972 served to delineate the scope and nature of third-party evaluation, included execution of a formal service agreement (contract) and resulted in the report which follows.

1. The complete report of the First Interim On-Site Evaluation follows, beginning on Page 3.

2. During the interim between the first and second on-site visits (December, 1972 to August, 1973) the third-party evaluators were provided with information on project progress by the project director, and were in telephone contact with the director on a monthly basis. During this time it was jointly determined that the third-party evaluators would identify at least three field test sites to supplement the primary field test site activities. No decision on specific sites was reached until after the second on-site visit.

3. The second on-site evaluation visit was conducted by primary evaluator Barnes and Associates, Dr.s Glau, Edsall, and Rask on August 27-28, 1973. The complete report of that visit follows, beginning on page 14.

# FINAL REPORT

of the

FIRST

Interim On-Site Assessment of the

# "Enrichment of Teacher and Counselor Competencies in Career Education Project (ETC)"

A Project Conducted by

The Center for Educational Studies

Eastern Illinois University
Charleston, Illinois

Dr. Marla Peterson
Project Director

Assessment Conducted by

Daniel B. Dunham, Salem, Oregon
and
Robert F. Barnes, Aurora, Colorado

December 1972

# Final Report of the
# Interim On-Site Assessment of the
# "Enrichment of Teacher and Counselor Competencies
# in Career Education Project (ETC)"

## Introduction

An interim on-site assessment of the ETC Project was conducted by the project evaluators, Dr. Dan Dunham and Dr. Robert Barnes, on December 15 and 16, 1972, in accordance with provisions of the evaluation proposal contract between Eastern Illinois University and the evaluators. The purposes of the initial visit were:

1. To conduct a preliminary evaluation planning session with project personnel.

2. To determine the scope, nature and dimensions of the project by reviewing pertinent project documents and conducting interviews with key project staff and university administrators.

3. To determine the validity, reasonableness and measurability of project goals and objectives, and the current status of project progress and accomplishments.

4. To initiate action on the development of a formative evaluation design based upon the dimensions, goals and objectives of the project, to include format, basic methodlogy, development of appropriate instrumenttation and a time sequence of evaluation activities.

## Project Intent

The ETC Project is intended to develop materials for the enrichment of teacher and counselor competencies in career education, with emphasis on the elementary (grades K-6) awareness dimension, based upon earlier developments of learner centered materials through the OCCUPAC Project and emphasizing development of teacher guides, learning modules and the design of a K-6 career education instructional system.

## Interim Assessment Procedures

During the first on-site assessment visit, the evaluators concentrated on interviewing all project staff in depth, review of selected materials and documents, and visits with key institution administrators. The findings, conclusions and recommendations which follow are based essentially upon these discussions with those persons most directly involved in the ETC project, plus review of the project proposal and other materials and publications, drafts, outlines and reports which have been produced through the Project.

## FINDINGS

### A. Project Management and Operation

The Project is operated through a management team headed by Dr. Marla Peterson, and includes a staff of four professionals and two secretaries. Each team member participates in major management decisions regarding project operation and development of various project components. In addition, each professional staff is responsible for a specific project area, and may work with one or more other staff members in the development of her or his respective component.

Through interviews with each staff member, the evaluators found this staff to have a very broad base of experience in elementary education, guidance and counseling and innovative project operation. Very close working relationships exist between and among the staff members, which appears to stimulate innovativeness and creativity among the group. These professionals possess a large capacity, both individually and as a group, for dealing with a project of the scope and nature of ETC.

They are inventive, optimistic and positive in approach, and appear to have above all, a keen view of the needs of teachers and learners as such needs relate to their project.

Interviews with two key institutional administrators, including the Dean of the School of Education Faculty and the Coordinator of Field Services for the Center for Educational Studies, reveal strong committment and support for the project on the Eastern Illinois University campus. The Dean indicated to the evaluators that this project has been a major contributing factor to his present goal for developing teacher preparation programs around a career development theme. The Coordinator of Field Services for the Center for Educational Studies, within which the ETC Project functions, indicates equally strong support for the project, and appears to have project management and administration details well in hand. There is an obvious close working relationship and coordination between the project director and the Center coordinator.

## B. Project Objectives, Activities and Accomplishments

### Project Objectives

Three primary project objectives are cited (Proposal, pages 7-8) as the framework within which the project is operating and developing. Briefly, they include:

1. Develop, evaluate and disseminate career education curriculum guides that are applicable to any school with grade levels functionally equivalent to K-6...
2. Develop, implement evaluate and disseminate sample teaching learning modules (or units) for the K-6 career education curriculum guides...
3. Develop, evaluate and disseminate a design for a K-6 career education instructional system which is adaptable to any elementary instructional program and which may serve as an alternative to present career education instructional system...

### Major Activities and Accomplishments (to date)

A lengthy list of accomplishments could be cited here. The evaluators choose to report the present project outcomes (progress) in terms of the following major activities and accomplishments which seem to be most significant at this early stage of project development. The items are the visible, production and process oriented results which appear to provide a substantitive basis for continuing project development and implementation. It must be noted that the project director and staff had compiled a very complete notebook which documented project progress and accomplishment to the date of the interim assessment visit. This notebook was extremely helpful to the evaluation team, and indicates the ability of the staff to carefully document their progress and put it into a useable form for review.

1. Development and publication of an extensive annotated bibliography of career awareness materials, guides, publications, which were collected during the research and data gathering phase. This publication is very professionally done, is highly readable and appears to have great potential useability. To the knowledge of the evaluators, this is the first work of such quality and quantity produced this early following the intial information search by a project of this scope. Moreover, the involvement of elementary students in reviewing these materials was an innovative and apparently useful strategy.

2. Basic career development concepts have been identified as the foundation for development of modules and guides. An evaluation guide including these concepts has been produced and has been used by the Ad Hoc Occupational Information team in assessing the initial concept statements.

3. Review of information, materials and the concept statements by the Ad Hoc Occupational information team of nine members has been completed.

4. Basic project format development is underway, focusing on four major subject matter areas as required by the proposal. This is a major responsibility of one staff member.

5. Appropriate scope and sequence of materials has been identified.

6. The first of several resource units is nearly complete.

7. Project evaluation contract has been completed and the first on-site assessment visit conducted. A very useful request for proposals (RFP) for the evaluation contract was developed by the project director. This RFP may very well be considered as having model potential for other similar projects needing to request such proposals. A total of six replies to the RFP were received.

8. Documentation of processes and procedures appears to be fairly complete at this time. A newsletter explaining OCCUPAC and ETC has been produced and there has been considerable local and state-wide newspaper coverage, all of which is well documented in project files and in the evaluators notebook.

9. Several visits to other projects have been conducted by project staff.

10. A National Advisory Committee to the project has been established and held its first meeting December 2, 1972.

11. Meetings with the Federal project monitor have been held. Information on hand resulting from these visits indicates close working relationships with the Federal project officer and a good understanding of the project scope, progress and status on the part of that officer.

12. Formal presentations on the project have been made by the project director to the USOE staff as well as to other groups and agencies. Professional papers on the project and/or its components have been developed and presented by three staff members (Drs. Peterson, Jackson and Tausig).

13. Presently, bids for publication of materials produced through the project are being sought by the project director.

14. A complete evaluation plan is being developed by the project evaluators on the basis of information and materials on hand plus the first on-site assessment reported herein.

## CONCLUSIONS

On the basis of the foregoing findings, the following conclusions are presented as a result of the initial on-site assessment.

### A. Project management, operation and staff

1. The total project management operation is well understood by all staff. Each participates in major management decisions with an attitude that can be characterized as "people and learner sensitive".

2. Relationships to the University, School of Education, and the Center for Educational Studies are clear and understood by all involved.

3. Staff capacity to perform is excellent.

4. Staff assignments are appropriate for intended tasks.

5. Understanding of project intent is uniform among staff members and can be articulated by each staff member with consistency.

6. The entire staff is sensitive to the useability of the project processes and products by others.

7. The communications system established by the project director among staff and between the project & other agencies is excellent & must be retained.

B. Major Project Activities and Accomplishments

1. The review of materials and development of the annotated bibliography provides as strong and relevant basis for materials and processes development.

2. The project appears to be "on-time" with most all developments, especially the development of concept statements, the nearly completed first resource unit, and supportive materials, and the scope and sequence detailing. All staff are conscious of the timeline and the pressure imposed thereby.

3. Concern for the useability of products and processes is a primary quality and quantity control factor.

4. Opportunity for testing and checking-out ideas and initial products exist in the Laboratory School (in which the project is housed) the Ad Hoc Occupational Information team, the evaluation process and design, and are readily and willingly used by staff.

5. Team approach to tasks is used and tends to capitalize upon the available talent pool (project staff) and to stimulate innovative and inventive thinking and planning.

6. The project focus is on using the "team of experts" concept for orchestrating, organizing and refining materials already developed within an "invented" frame of reference ("concepts") and the development of a format for materials which will enhance their useability and stimulate their adoption by others. This approach appears to be well justified at this time, and seems to possess the potential for validating the "in-house, team of experts" approach to bringing resources (both human and material) together for a productive curriculum development effort.

7. A Business-Industry Advisory committee has not yet been developed and is a high priority next step item.

8. The Ad Hoc Occupational Information team is being used.

9. The project enjoys an apparent close liaison with the USOE project monitor. Correspondence on file indicates USOE enthusiasum for the project's process and present accomplishments.

10. Project staff do not appear to be constrained by a need to design inservice strategies to accompany the materials developed. Rather, they show evidence of a concern for so designing project products that teacher judgment will determine whether or not materials have utility in the local classroom setting.

11. There is an apparent strong intention to give priority attention to an adoption process which will require minimal inservice to orient user teachers to the materials and how to use them.

12. The staff plans to continue gathering materials related to the project, and to seek additional methods and means for advertising the need for such materials.

13. There is needed staff concern for scope and sequence of materials developed, and for articulation of both and inter-disciplinary and grade level nature.

14. There is an intention to give more attention to development of modification strategies (alternative) for teachers to select from in modifying materials to enhance useability in the classroom.

## RECOMMENDATIONS

The following recommendations are offered by the evaluators on the basis of the foregoing findings and conclusions:

1. The project staff should continue to focus on the "product useability" dimension of materials produced. Special attention should be given to format and language. (For example, the term "choice making may be more useable for the elementary teacher than the term "decision making" in the adoption process).

2. A high degree of use of existing materials without too much attention to detailed crediting of sources is recommended. A general bibliographical listing of contributors whose materials were used should be sufficient.

3. The staff, with the assistance of the evaluators as appropriate, needs to design teacher and learner pre- and post-tests for piloting the initial units.

4. The devising of a one or two page evaluation form for each resource and teacher unit, to be completed by the field test user, is recommended.

5. The staff should continue to work on format refinement to focus on:
    -simplicity of terms-basic language
    -style of presentation
    -quality of materials published
    -form of publication (a loose leaf, 3-hole punched, paper-wrapped package is recommended)

6. Supplements to the present bibliography should be added as new materials are reviewed, annotated and described. A second edition of the bibliography is recommended, but in loose-leaf, 3-hole punched, paper-wrapped form to ehnance useability and addition.

7. Methods for insuring quality control with regard to the focus on teacher useability need to be established.

8. Additional consultants representing areas not presently available via the experience or background of the staff team is recommended. For example, urban education, minority education, special education, etc., might well be integrated into the existing approach through the use of such persons as Bert Carruthers of the Kansas City, Kansas Public Schools, as well as others.

9. A third validation dimension (in addition to the laboratory school and the evaluation team five state field test approaches) is recommended in the form of a Delphi panel. The evaluation team will assist in developing a list of potential Delphi panel members as requested by the project director.

10. Design, in cooperation with the evaluation team, a plan for extension of the project beyond the current funding-operation period to focus on follow-up of the adoption process.

11. Update and modify project objectives to add greater detail, clarity and specificity. More detail will enhance both project operation and the evaluation effort.

12. Efforts to carefully document the process of this project should be continued. An important side-effect of this project appears to be the team of experts approach to curriculum development in career education.

13. The Ad Hoc Occupational Information team and the National Advisory Committee should continue to be utilized as often as possible through the project's process of materials development.

14. The Business-Industry Advisory committee should be formed at the earliest possible time.

## SUMMARY

It should be apparent at this point that the evaluators found this project to be in "good shape" at this stage of it's operation. Much of this apparent successful accomplishment can be attributed to an outstanding staff and the management style employed in operating this project.

Those who are skeptical of an operation based on a "talent pool" working to develop materials which are to have broad utility and high potential for transportability-replication, should spend a day or two visiting this project. It has all the earmarks of success, at this time, in the view of the evaluators. The onus is on the project staff to maintain their present levels of enthusiasm, effort and committment throughout the project. While it is too early to predict complete success for this project, present evidence indicates that the ETC project is well on the way toward producing new and better methods for learning based on a contemporary career development theme.

# FINAL REPORT

of the

# Second Interin On-Site Assessment of the

# "Enrichment of Teacher and Counselor Competencies in Career Education Project (ETC)"

A Project Conducted by

The Center for Educational Studies

Eastern Illinois University
Charleston, Illinois

Dr. Marla Peterson

Project Director

Assessment Conducted by

Robert F. Barnes

Richard H. Edsall

Jon E. Glau

D. Glen Rask

August 1973

# FINAL REPORT OF THE
# SECOND INTERIM ON-SITE ASSESSMENT
# OF THE "ENRICHMENT OF TEACHER AND COUNSELOR
# COMPETENCIES IN CAREER EDUCATION (ETC) PROJECT"

## Introduction

During the first on-site assessment visit, December 15 and 16, 1972, the evaluators concentrated on interviewing all project staff in depth, reviewing of selected materials and documents, and visiting with key institution administrators.

The second interim on-site assessment of the ETC Project was conducted by project evaluation team, Drs. Robert F. Barnes, Richard H. Edsall, Jon E. Glau and Glen D. Rask, August 27 and 28, 1973. This on-site visit was in accordance with the provisions of the evaluation contract between the Eastern Illinois University and the evaluators. The purposes of this second visit were to:

1. Conduct a follow-up evaluation of the progress of the project.
2. Review project goals and objectives and recommend any necessary revisions to maximize overall effectiveness of the project.
3. Review data collection instruments developed by project staff and advise on changes to improve them for use in field validation of materials developed by the project.
4. Develop and finalize with project staff, plans for field validation of project-developed materials.

## Project Intent

The ETC Project is intended to develop materials for the enrichment of teacher and counselor competencies in career education. The emphasis of the project is on the elementary (grades K-6) awareness dimension, based upon earlier developments of learner-centered materials through the OCCUPAC Project which was the development of teacher guides, learning modules and the design of the K-6 career education instructional system.

## Project Objectives

Three primary project objectives are cited (Proposal, Pages 7-8) as the framework within which the project is operating and developing; briefly, they include:

1. Develop, evaluate and disseminate career education curriculum guides that are applicable to any school with grade levels functionally equivalent to K-6 . . . . .
2. Develop, implement, evaluate and disseminate sample teaching learning modules (or units) for the K-6 career education curriculum guides . . .
3. Develop, evaluate and disseminate a design for a K-6 career education instructional system which is adaptable to any elementary instructional program and which may serve as an alternative to present career education instructional system . . . .

## Major Project Activities

1. Development of an annotated bibliography on career education materials.
2. Development of four curriculum guides for career education.
3. Appointment of the AHOIT and a National Advisory Committee.
4. Identification and/or development of seven major concepts (dimensions) of student attitudes of career education which initially were: Career coping behaviors; career information; decision making; educational awareness; life styles; student attitudes; and, self development.
5. Consolidation of the seven dimensions into the following four major dimensions: Decision making; self development; life styles and career coping behavior.
6. Determination that the remaining three dimensions could not be isolated effectively and were integrated into the four major dimensions listed above.
7. Development of four curricular guides for each major dimension.
8. Development of a format which placed major emphasis on process rather than product and/or materials.
9. Development of "standardized" in-service packages to be used in all field validation sites.
10. Involvement of ETC staff members in teacher-training programs for career education on the Eastern Illinois University campus which included a seminar-lecture series on Trends in Career Education and a three-unit course on Methods of Teaching Career Education.

## Findings and Conclusions

A. Project Management and Operation - The project management remains sound and effective. Progress being made is consistent with project objectives and the established project time line. At the time of the site-visit, in the judgment of the evaluation team, the project was approximately 45 days ahead of schedule. Materials for field validation are scheduled to be available for testing November 15, 1973, rather than January 1, 1974, as scheduled. A Business-Industry Advisory Committee has not been appointed even though a National Advisory Committee and the AHOIT have been functioning.

The writing staff expressed concern over the fact that they were unable to thoroughly review all existing materials that were available to them in the project office. They were also concerned over the fact that none of them had adequate time to review materials being prepared by other members of the writing team. The general feeling was that there could be some problems created as far as maximum articulation was concerned between the materials being developed K-2, 3-4, and 5-6. The staff was also concerned about continuity of language levels in the guides and whether or not the guides are more heavily oriented toward cognitive than toward affective. The total staff expressed some concern over the fact that they did not believe there had been time for adequate input from "field professionals" in the development of the infusion strategies.

B. Curriculum Development and Field Testing - The development and publication of the extensive annotated bibliography on career awareness materials, guides, etc., which were collected by project staff had been completed. This document is well done, but incomplete in content because it lacks listings of materials that are available from business, industry, labor and governmental agencies. However, the project team expressed the belief that this approach was necessary if materials development was to maintain the prescribed time schedule.

Interviews with the Dean of the School of Education and the Coordinator of Field Services for the Center of Educational Studies indicated that the same strong commitment and support of the project still exists as was found in the initial visit. The Coordinator of Field Services did express deep concern over the fact that no firm arrangements had been made for publishing the materials when the project terminates.

The staff has made a concerted effort to compile a sound representative sample of content to be used at each grade level (K-6) in the four designated subject areas. Since the content is a representative sample, the teachers in the field testing sites must adapt this content and add other content to fit the needs of their particular site and student needs.

Not a great deal had been accomplished in preparing teacher and counselor in-service materials and the staff is considering alternatives for developing these materials. The selection of Waukegan, Illinois, as an on-field validation site eliminates using any alternative sites because of the limited time budgeted for in-service by this district. In field testing, all schools must receive the same amount of in-service.

A tentative evaluation plan for the field testing phase has been developed and the evaluation team reacted to this plan and the instruments to be used. The format used in the guides is a strength of the entire project. However, a thorough understanding of that format must be achieved by everyone involved in the field validation if its actual value is to be fully realized.

To date, not a great deal has been accomplished in disseminating "Career Development Concepts and Main Themes". The document, "Evaluation Instrument for Career Development Concepts and Main Ideas", clearly states concepts and main ideas being developed in the project. This document, with modification, could become the vehicle for dissemination of this information.

The entire project staff is extremely concerned over the minimal nature of in-service and is exploring alternatives for expanding in-service activities prior to general release of the guides.

Although a plan and instrumentation for evaluating the field validation segment of the project has been tentatively developed, it still needs revision and further development. Tentative identification of sites for field validation has been accomplished to include urban, suburban and rural areas.

The infusion of the career concepts into subject matter concepts and using both of these as standards and reference points for the student in his education is the kind of innovation on which the success of career education depends.

The activities section of the curricula guides encourages use of directed practice, demonstration, hands on experience, individual activities of exploratory nature, etc., rather than 'traditional classroom teacher centered' activites.

Although the project director has identified publishers who are interested in the guides, no contract has been negotiated.

## RECOMMENDATIONS

The on-site evaluation team makes the following recommendations based on the preceding findings and conclusions:

1. The annotated bibliography should be up-dated with particular emphasis on career education materials that are available from business, industry and governmental agencies.
2. The staff must continue to focus their efforts on usability of the product (guides). This should represent the major staff effort once field validation data are available.
3. All field validation plans and instruments must be submitted to the on-site evaluation team for final review and modifications by November 1, 1973, at the latest. This should allow ample time to get Office of Education 'sign off' by January 1, 1974.
4. The following demographic data should be collected from all field validation sites:

   Student Demographic Data:

   1. Mean cumulative IQ scored for each class involved in the test. Name of test(s) used, etc.
   2. Achievement test scores - math, language arts, social studies and science; both pre and post-test scores. Again, tests used, pre-tests should be administered just prior to field test, if possible.
   3. Socio-economic data: Mean income of parents for each class, ethnic make-up of each class, language variable, number of students in each class receiving free lunches.

   School Data:

   1. Population of the district
   2. Number of schools in the district
   3. Number of students enrolled in each level in the district - elementary, middle school (junior high) and senior high
   4. Number of professional staff in district
   5. Number of non-professional staff in district
   6. A.D.A. for district and test schools
   7. Migration rate for district
   8. Cost per pupil for elementary schools in the district
   9. Number of elementary counselors in the district and each test school
   10. Number of other elementary support personnel in the district
   11. Any special budget in the district for Career Education
   12. Special state supplemental funding for Career Education
   13. Evidence of district commitment

Community Data:

1. Industrial base
2. Location
3. Community resources available for career education
4. Use school is making of available community resources
5. Is community a federally impacted area?
6. General description of the community?

5. The project staff should develop a good resource program to orient faculty members using the curriculum guides developed by the project. The main thrust of the in-service program should be to modify teachers' attitudes in using the materials so the curriculum guides will not be used as simple "another textbook". Members of the evaluation team with expertise in Career Education in-service should be available to assist the project staff in developing, field testing and refining such a package.

6. Efforts should be made to get staff input from field validation sites as to the type and amount of additional in-service they believe is needed. This type of input would be invaluable in designing an effective in-service component.

7. If commercial publishers continue to be reluctant to pick up the guides on a contractual basis, the project director should explore other avenues. One possibility would be to work with the Illinois DVTE and develop a cooperative publishing arrangement. There is also a possibility of entering into a contractual agreement with one of the University Press units in Illinois such as University of Chicago, etc. While these would not be as advantageous as a commercial publisher, they do represent alternatives that may have to be explored. Two other alternatives would be the Government Printing Office or American Vocational Association.

8. The staff should identify additional consultants that may be used in revising the guides after field validation.

9. A Business-Industry Advisory Committee is still recommended. Such a committee would be useful during the revision stage.

## SUMMARY

It is the judgment of the evaluation team that this project is still proceeding on schedule and meeting the objectives outlined on the proposal. Because of the quality staff and effective management, problems have been kept to a minimum. Staff commitment is still excellent and enthusiasm is high. The success of the final end products is dependent upon the effectiveness of the field validation process. To measure effective utilization of the field validation data and consultants in areas where staff expertise is low, consultants should be utilized. Effective in-service training programs should be planned to adequately prepare teachers and counselors for use of the guides.

Overall, the evaluation team was pleased with progress made and with the products developed.

4. During the interim between the second and third site visits (August, 1973 to February, 1974), the following evaluation activities took place:

   (a) Supplementary field test sites in Pueblo, Coloado; Springfield, Oregon; and Glen Elder, Kansas were selected.

   (b) Primary evaluator Dunham met with Project Director, Marla Peterson and project staff member, Jan Sutherland, at the AVA Convention in Atlanta, Georgia, December, 1973. At this meeting it was agreed that project staff would handle all data related to primary and supplementary field test sites including test site coordinators, and collection, synthesis and interpretation of field test data.

   (c) The decision to conduct a briefing and orientation session for supplementary field test site coordinators in Denver on January 7, 1974 was also made at the Atlanta meeting. Evaluators were responsible for selecting the coordinators and assuring their attendance at the Denver meeting. Two persons from Oregon, two from Colorado and one from Kansas attended the January 7, 1974 session in Denver, which was conducted by Jan Sutherland of the ETC staff.

   (d) Field testing of ETC curriculum materials was initiated at the three supplementary sites in Pueblo, Colorado; Springfield, Oregon; and Glen Elder, Kansas, following the Denver meeting of site coordinators and prior to the third on-site evaluation on February 14-15, 1974. Third-party evaluators worked with site coordinators to secure materials from the ETC project, schedule staff inservice sessions, provide liaison with local district administrators, and provide interpretation and clarification of the purpose and nature of field testing as needed.

5. The third on-site evaluation of the ETC project was conducted by Primary Evaluators, Dunham and Barnes on February 14 and 15, 1974 at the primary field test site in Waukegan, Illinois. A complete report of the third on-site visit follows, beginning on page 23.

# REPORT

of the

# Third Interim On-Site Assessment of the "Enrichment of Teacher and Counselor Competencies in Career Education Project (ETC)"

A Project Conducted by

The Center for Educational Studies

Eastern Illinois University

Charleston, Illinois

Dr. Marla Petersen
Project Director

Assessment Conducted By

Daniel B. Dunham, Salem, Oregon

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March 12, 1974

# Report of the Third Interim On-Site Assessment of the "Enrichment of Teacher and Counselor Competencies in Career Education (ETC)"

## Introduction

This is a report of the third interim on-site assessment of the "Enrichment of Teacher and Counselor Competencies in Career Education" Project (ETC) conducted by the third party evaluators, Dr. Dan Dunham and Dr. Robert Barnes, on February 14 and 15, 1974, in accordance with provisions of the evaluation proposal and service agreement between Eastern Illinois University and the evaluators. The purposes of the third on-site assessment were:

1. To determine the current status of the project in general
2. To gain a view of the on-site field testing programs at the primary field test site at Waukegan, Illinois
3. To clarify the roles and function of third-party evaluators in the additional three field test sites in Oregon, Colorado and Kansas being conducted as a part of the third party evaluation
4. To determine the specific requirements of the fourth and final on-site project evaluation tentatively scheduled for May 2, 3 and 4, 1974

This evaluation was addressed to capturing information on ten major issues including the following:

1. A general review of the progress and current status of the project
2. Project Management and Administration
3. The current status of the field test project at the Waukegan site
4. A review of materials publication status
5. An assessment of project impact through related staff activities

6. Use of advisory committees and councils by the project.
7. Status of reports to the U.S. Office of Education
8. Needs for further testing refinement and follow-up of project outcomes
9. Design of strategies to refine the conduct of field testing at the Oregon, Colorado, and Kansas field test sites
10. Design of components of the final on-site evaluation visit by the third-party evaluators

The report will be presented in ten sections, each dealing with one of the foregoing major components of the interim on-site evaluation visit. Each component presentation will be in the nature a narrative of findings, status, and concerns noted by the evaluators. Following a review of all nine evaluation components, conclusions and appropriate recommendations will be given in two final sections of the report.

## I. Current Project Status

Materials revision is being conducted primarily by the project director and the project curriculum coordinator. The present guides and units are being revised in light of feedback information received from the Waukegan field test site; primarily teacher data. The primary focus is on infusion strategies with an additional focus on writing an introduction to a "professional book" which is aimed at "how to use the guides" and materials in the ETC elementary teacher-counselor competencies configuration.

The "professional book" is an attempt to extract the philosophical background, rationale, research base and theoretical base information presently included in the teacher guides. Project staff have determined, based on feedback from Waukegan test-site teachers and counselors, that this material is extraneous and should be placed in summary form in another document. The development of this background manual will be the primary job of two staff members (Carl Tausig and Judy Barford).

The "professional book" will include, at the most, eight to nine chapters, of which most will be written by Tausig and Barford. The project director, Peterson, and curriculum coordinator, Jackson, will write about one-third of this book, and will orchestrate development of other chapters.

This effort is beyond the original scope of the project. However, project staff have determined that this is a legitimate activity and will enhance the usability and receptivity of the additional materials found in the guides and units. It is noteworthy that the USOE Project monitor has asked the project only to produce a manuscript of this "professional book" and not to develop it into a final document at this time.

The major activity occuring between the second on-site assessment visitation conducted in September of 1973 and the visit reported herein has been the establishment of the field test-site at Waukegan, Illinois. Demographic and descriptive information regarding the field test-site will be found in Appendix B of this report.

The staff introduced the materials to the Waukegan teachers in two test schools in November. Test-site teachers began using the materials shortly thereafter.

Project staff have visited the Waukegan site on two occasions since the introductory, orientation session in November. One visit was conducted in December by two project staff members, and the second visit in January by three project staff.

## II. Project Management and Administration

The management and administration dimension of this project appears to be going as smoothly as it was found to be in the two previous evaluation visits. The project is staffed by five full-time professionals, a full-time secretary and a part-time student (assistant secretary) who works approximately 20 per week.

In the view of the project director, staff work has been going extremely well. All staff are capitalizing on professional side benefits including publishing articles, making speeches and related activities which, in the view of the project director, have enhanced staff morale. She noted that staff are working overtime to accomplish the time-line of the project and are now all very heavily involved in the revision process.

The evaluators feel that it is noteworthy that only one of the current five-member professional staff is a full-time tenured employee of Eastern Illinois University, and therefore is guaranteed future employment after the termination of the project. At least one staff member will likely leave the project site, two others want to work on additional future projects, and the project director is looking forward to possible future employment with Eastern Illinois University and/or the directing of another project of a nature similar to the current one.

It is apparent to the evaluators that staff capacity to perform effectively has been one of its primary strengths of this project. There has been a clear and obvious high level of morale and commitment to the project throughout the project term. Part of this outcome must be attributed to the opportunity the project director had to select staff at approximately the same time as the proposal was being approved. The evaluators feel that pre-selection of staff required by most proposals is not always a useful idea. Project directors should be trusted to make good selections of potentially useful staff after a project is funded. So often funding information and notification of award of a grant precludes doing this; that is, selecting a staff prior to the installation or beginning of the project.

It is clear that the style of management and communication existing in this project has enhanced project success to date. All staff seem to know their jobs well, timelines are understood by all and it appears that people continue to be matched well with their areas of expertise.

## III. Waukegan Field Test Site

The project director provided the evaluators a preliminary overview of the status of the Waukegan field test sites which are located in two schools, in

Waukegan, Illinois. The following is a review of the two test site schools which were visited for approximately one-half day each by the project evaluators on the second day of the on-site assessment visit.

## A. Test Site A

Site A is a school of approximately 370 students with an ethnic mixture of 50% black, 45% Latin American (Chicano), and approximately 5% Anglo (white).

The evaluators observed a very cooperative attitude among the several teachers visited, both in classes and in informal conversation in the teachers' lounge. The principal of this building is very clearly committed to career education and is conscious of the importance of this project in terms of the field testing of contemporary materials for career awareness activities for teachers and counselors in grades K-6. He appears to have exercised considerable leadership but maintains a rather low profile in terms of the visability of the field test. He stated that he will not "stage anything for you," but rather "you should come and see us as we are."

This building leader appears to know and understand the materials and has made suggestions to project staff on revisions of the materials to make them more useful in the classroom. He also provides tips and ideas to teachers on a regular basis.

It is noteworthy that this school was selected as a test site. The principal and all of the teachers interviewed were conscious of the status of their school as an ethnically and racially mixed population and exhibited considerable positive sensitivity to their utilization as a test site both for this project and other projects in Illinois.

The evaluators visited with the principal at some length and with individual teachers in kindergarten and grades 1, 2, 3, and 6 for a total of five teacher interviews. All teachers are using or have used materials and were able to document experiences and outcomes for themselves and for their students with several units from the ETC material. It was observed that about 80% of the teachers in this building were involved with the project and of that percentage the five interviewed were found to currently be using something from the ETC material.

The evaluators also interviewed several students in grades 1, 2, and 3. To the questions of the evaluators regarding their experience in field trips, what they wanted to do, and other related questions, typical answers were given such as; "I liked this," "It was fun to go to the nursery," and other answers expected from children in grades 1, 2, and 3. Nothing out of the ordinary was found in student responses.

All teachers interviewed indicated concern for articulation between and among grade levels. It was found that this test site was not doing too much in cross-grade-level work because of intended known limitations of the field tests. Since they had been asked to stay pretty much with their own grade levels, they were not looking at other materials from other grade levels; however, they were aware that some materials from grade one might be usable and perhaps more adaptable for grade two or three (because of the lack of previous experience on the part of the second or third graders, both teachers and students, in using this particular material).

In general, however, a very innovative and open attitude was found on the part of the teachers. There was considerable evidence of outcomes of activities including booklets students had made, written materials developed by students and some bulletin board displays. It appeared in general that the activities of field testing at this site were well underway and being rather well accepted by the teachers involved.

B. Field Test Site B

Site B was found to be a more formally structured school environment than Site A. It was highly organized and evidenced a more conservative and structured approach to developing a learning atmosphere. The interview with the principal indicated that this person understood the nature of the materials rather well, was interested in participating in the field tests, and was quite aware of what each of the teachers in the building who were involved in testing materials were doing.

(It is worth noting that the project director believes this school (Site B) is "doing better with the grades four, five, six materials" whereas Site A is "doing better with the K-3 materials.)

The evaluators, after visiting for some time with the school principal, visited teachers in grades K, 1, 2, 4, and 5.

There was a little less evidence of active use and involvement with materials in test Site B than in test Site A. However, the teachers in this school (test Site B) were aware that the field test ends on March 30, 1974, and that all of the materials must be returned to the project director at Eastern Illinois University on that date. It is interesting to note that none of the teachers at test Site A were aware of this timeline situation. The principal of school A reacted rather strongly to this information which he indicated he had not been provided prior to this visit by the project director. When informed of the test site end date of March 30, or reminded of this termination time, all of the teachers and principals interviewed at Site A wanted to continue to keep the materials through the balance of the year. The teachers, with one exception, at Site B, did not seem too concerned with retaining use of the materials through the balance of the school year.

The evaluators found that this school (Site B) was not as involved in career education as school A. They were willing to participate in the field test, but appeared to be more concerned with "regular program activities". It appeared that the time alloted to doing the field test work was "extra" time and not integrated as a part of regular activities.

Every teacher interviewed at Site B indicated concern with the difficulty of materials. The teachers pointed out that they have "above average learners" by and large in the Site B school, and if the materials were too difficult for many of their students they felt that they would be extremely too difficult for "average" students.

The demographic information on this school, shown in Appendix A of this report, reveals that this is a primarily all white, middle to upper-middle class population of students, as compared to the lower and lower-middle class group of students of greather ethnic mix from Site A.

All teachers in both sites wanted more in-service from project staff. Most of the teachers interviewed also wanted to "see other teachers doing it first" before they were willing to get deeply involved in the use of the materials on a regular basis.

When it was suggested by the evaluators that part of the purpose of the field test was to be the first people to "do it first" teachers in school A seemed more receptive to this idea than did the teachers, as a group, in Site B.

### C. General Comments on Field Sites A and B

In general, it appears to the evaluators that these two field test site schools are well chosen for several reasons, including their geographic location, the size of the student population, the ethnic mix in one school as opposed to the lack of much mixture of ethnic groups and economic and cultural differences in the second school.

It appeared that the field test procedures were going rather well in both schools. While it was possible to locate the field test materials (that is they were in evidence in virtually every classroom visited) there was no overt effort or display made at either school to consciously make these materials and their use visible. In other words, the field test was apparently being conducted in both sites without much interruption to the normal and regular activities of a school day.

## IV. Materials Publication and Revision Status

The project director indicated the following points with regard to materials publication status:

A. February 18 is the date for submission of materials to a commercial publishing house which should respond to the possibility of bidding by March 20. It is noteworthy that there is no tie between this commercial publishing house and any of the current staff work or relationships.

B. A second alternative being investigated is publishing this material through one of the regional curriculum laboratories.

C. A member of the project's national advisory committee is also looking into possibilities for publication through that person's contacts with commercial publishers.

The original project proposal asks that the project effect dissemination of the materials, but there is an indication from the U.S. Office of Education project officer that the Office of Education understands the difficulty of publication and dissemination. This is an important point, because, while dissemination was to have been in important part of the project, it appears to have some problems at this point.

The project director indicates that very little, if any, red tape from the Eastern Illinois University is foreseen in publishing this material, regardless of the final choice of publisher.

It was noted by the project director that commercial publishers seem to want more validation of materials before being involved in publishing. These commercial publishers tend to shy away from the Office of Education-related "red tape" problems of copywriting, royalties, etc.

Materials revision has already been described under section I of this part of the report. A few other comments worth noting are that the concepts and components unit is receiving good feedback from the field test sites. The guide format is being restructured to reduce the number of objectives, reduce the verbage, and redesign the total format of the teacher guides. It has also already been noted that a professional book or teacher's manual is being developed.

## V. Project Impact Through Staff Related Activities

A number of spill-over values from this project appear to be accruing to project staff. These include teaching extension courses on or through the university campus, writing articles for commercial publishers, developing publications of their own, making speeches, providing leadership roles through the American Vocational Association and its elementary interest section in particular, and a number of other related activities. A statement on "Staff Impact on Career Education through Related Activities" was provided at the request of the evaluators, following the on-site visit. This statement is included in Appendix B.

## VI. National Advisory Committee and Ad Hoc Information Team Actions

A. Each of the two major advisory groups has met two times during the period of the project. A third meeting of both groups, jointly, is scheduled for the week of February 18.

The National Advisory Council has been helpful in various ways as follows:

a. Assist Dr. Jackson in presenting the project at a national conference.

b. Working in individual ways, as well as a group, to assist in the dissemination of the project.

c. Providing speakers and presentors on the project at various functions.

The project director indicated good cooperation from all members of the advisory committee and indicated that most want to be involved and appear to the director to be interested in and committed to project and to career education in general.

B. The Ad Hoc information team was described as a "hard working group, made up of practitioners from several sources". These include local directors of vocational and career education, counselors, teachers, teacher-educators, business and labor representatives, and state officials, including a curriculum lab director. These people helped to determine the concepts dimensions of the materials and assisted in refining the number of original concepts from several dozen to the present eleven major concepts and about 80 subconcepts, which are grade leveled, K-6. The Ad Hoc information team also was helpful in a substantive way to the project in terms of management direction and provided input to assist in materials revision, particularly the teacher members of the team. Some have assisted with technical arrangements to allow the project to gain entry to related resource agencies as another benefit.

## VII. USOE Final Report

The final report of the project is due in the USOE Office in near final draft form on May 15. In this draft there will be options for suggestion from the Office of Education project officer.

Interim reports have been on a bi-monthly basis to the USOE project monitor. These have focused on updating and progress of the project and have been disseminated to all the project staff and to key university people, as well as members of the two advisory groups.

An open house on the project held during the Christmas break for Eastern Illinois University staff attracted 150 staff members from across the campus plus parents of students in the lab school program. There appeared to the project director to be a good departmental spread of these people. This was seen as an indication of acceptance and of an interest in the project on behalf of the EIU Staff.

## VIII. Further Testing and Refinement Needs

Some of the constraints envisioned by the project director in terms of utilizing and disseminating the material are the impressions that states tend to restrict schools from using out-of-state developed products. Thus, the validation phase of this project needs to be enhanced through further testing, in the opinion of the director.

The director suggested leadership seminars for new directors of Federal part C and D and curriculum projects to review what has been developed and tested in the curriculum projects. It was suggested by one of the evaluators that a condition of getting approval of new project proposals ought to be involvement in this leadership seminar, including the costs of travel and participation in the proposal budget.

## IX. Other Field Tests Sites

As a part of the evaluation contract, three additional field test sites are currently underway as of approximately January 15. These are in Oregon (Springfield Public Schools) Colorado (Pueblo Public Schools), and in Kansas. The following list of informational needs was agreed to by the project director and the two evaluators regarding the other three field test sites:

1. Need thorough documentation of the educational setting in which each of the three field tests were conducted including demographic information which should have already been provided.
2. A clear identification of the role of the principal in the field test (the principal in each building involved).
3. The extent of staff orientation and in-service on the materials including level of career education knowledge before introduction of ETC materials.
4. ETC already has teacher data on all four sites and will know the amount of teacher in-service to some extent, but this needs to be embelished by the site monitors.

5. Need a narrative of the following:
   - A. The setting with emphasis on teacher in-service.
   - B. A description of the on-site coordinators
   - C. Who did the in-service, and were they elementary types or vocational types?
   - D. The style or use of materials; how did teachers choose units, why did they start where they did, and what was used?
   - E. General teacher reaction regarding technique and organization, wording, content, and format.
   - F. Student reaction; Question: How about a tape recording and slides from test sites on student activities and reactions?
   - G. Identifying any problems with wording or organizational stereotypes and shibboleths, such as race, age, sex, cultural background.

## X. Final On-Site Evaluation Visit

A final on-site evaluation of the ETC project has been tentatively scheduled for May 1-4, 1974. The focus of this final on-site evaluation will be to determine: a) the effect of the project and its materials as outcomes of a process; b) effect on the field test sites; c) the opportunity to interface with other projects in curriculum development, and d) general product outcomes, validation and dissemination.

It is noteworthy that up to this time most of the emphasis of the evaluation has been on process and management. It was agreed that from this point on that emphasis will be placed on products and their effects. It was further agreed that the project evaluators would provide a rough draft (in outline form) of their final evaluation report at least two weeks prior to the final on-site visit. At the time of the final on-site visit, this draft would be refined, fleshed out, and serve as the conclusive document of the total assessment and evaluation of the project.

## Conclusions

1. The project is on time with all activities and functions and seems to be operating smoothly in almost all respects.
2. Project administration and management are strengths of the project and continue to be handled in an effecient and useful style.
3. Primary field testing programs at the Waukegan test site are on schedule and appear to be producing the kinds of data necessary to accomplish initial validation of the curriculum materials.
4. Final publication of the curriculum materials appears to be the only area of difficulty at this time.
5. Staff related activities resulting from involvement in the project are a significant spill-over or side benefit value of this project.
6. Advisory groups including the Ad Hoc information team and the National Advisory Council have fulfulled their respective roles adequately at this time.
7. Plans for the development of the final report for the project to be submitted to the U.S. Office of Education appear to be developed and report development is underway.
8. There appears to be a need for post-project testing and follow-up of project outcomes.
9. The field testing of curriculum materials at supplementary field test sites in Oregon, Colorado, and Kansas are underway and appear to be going according to plan and are on schedule.
10. Initial plans for the final on-site assessment visit by third-party evaluators have been outlined and are currently in the process of refinement and developmen

## Recommendations

The following recommendations are based on the preceding findings and conclusions of this third interim on-site assessment of the"Enrichment of Teacher-Counselor Competencies in Career Education"(ETC) project.

1. Plans for publications of the curriculum materials need to be pursued by project staff and the U.S. Office of Education project monitor. While three alternatives for publication exist at this time, it appears essential, to evaluators, that a final decision be made well prior to the development of the final report with regard to publication of materials.
2. Teachers in the several test site schools (both the primary test sites in Waukegan and the supplemental test sites in Oregon, Colorado, and Kansas) need to be clearly advised of the early availability of validated materials.
3. Provision should be made for allowing test site schools to copy materials that are out for testing in order that teachers may continue units following the field test period in order to alleviate problems of continuity and articulation. (It is understood by the evaluators and by most of the teachers that all test materials must be returned at the completion of the field test.)
4. There is a clear need for post project additional testing, refinement, and revision of materials and the design of a follow-up of project outcomes which is both student based and teacher based.
5. Third party evaluators must clearly identify and coordinate the collection of field test data from the Oregon, Colorado, and Kansas suplementary field test sites in order to provide appropriate data to the project staff for the development of the final report.

# Guidelines for Supplementory Field - Test
# Site Evaluation and Report
# EIU - ETC Awarness Materials

## Introduction

The Field Test Site Monitor and Report Writer are requested to provide information in report form (narrative) and table or schedule form (graphic) to provide answers to the points or questions which follow. A preliminary draft of the report should be submitted to the primary project evaluators (Dunham for Oregon; Barnes for Colorado and Kansas) by April 1, 1974. A final report is expected NO LATER THAN APRIL 10, 1974.

## Components, Questions and Areas of Concern

1. Provide complete written description of the "Educational Setting" for each test site school. Refer to demographic information sheet already completed, then add, in narrative form, such information and data as will provide a complete picture of each educational setting.

2. Describe amount and type of in-service and/or orientation provided teachers and counselors on the ETC materials, their purpose and use.

   - How much time given to orientation?
   - Who provided inservice? (Describe educational background
   - How was inservice given?
   - Under what conditions?
   - Any follow-up on group or individual basis?

3. Describe the on-site coordinator(s)-

   - Who were they?
   - How much time spent on-site after inservice?

- What is their educational area of emphasis (elementary; vocational; secondary?)
- What kinds of activities did coordinator do with teacher using materials, if any?

4. Describe methods and strategies used by teachers in testing materials-

    - How did teachers choose units?
    - Why did teachers start/stop where they did?
    - To what extent did teacher depart from recommended approaches?

5. General teacher reaction to materials.

    - Technical and organization format
    - Words - verbage
    - Content
    - Level of difficulty
    - Ease or difficulty of modification, adaptation, adoption.

6. Student reaction ( so far as possible to determine, did students:)

    - Like the units covered in field test?
    - Think the material, activities were too easy; too diffrent?
    - Think or know some new materials or ideas were being used in their class?

    (Project staff have asked for some quotes, on tape if possible, of student responses. Also, slides of students in class activities would be useful).

7. Any problems with stereotypes or shibboleth regarding sex, race, age, national origin, cultural differenc?

8. Describe level of teacher knowledge and/or experience with Career Education.

9. Describe role of principal of Test-Site buildings-

- Involved in field-test?
- Committed to Career Education?
- Style of operation (in general, is she/he aggresive instructional leader, or low profile, passive?)

EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS 61920

CENTER FOR EDUCATIONAL STUDIES
School of Education

581-3914

February 18, 1974

Dr. Dan Dunham, Coordinator of
Applied Research
Career Education Division
942 Lancaster Drive NE
Salem, Oregon 97310

Dear Dan:

I have put the enclosed materials together rather hurridly. I will be leaving for Chicago tomorrow and I wanted to get the materials in the mail before I left.

We will need a narrative which describes the field testing sites. At a minimum, this narrative should include:

1. Amount and type of inservice activities that preceded the start of the field testing. Exemplary project?
2. How the field testing is being coordinated at each site--by whom? What is the coordinator's background? How is the principal involved?
3. Population of the school. Black? Spanish speaking? Socio economic class?
4. Geographic location. Near large city? Rural? Industrial base? (We will have population figures.)

I am enclosing the staff impact summary which you requested.

Sincerely,

Marla

Dr. Marla Peterson, Director
ENRICHMENT OF TEACHER AND
COUNSELOR COMPETENCIES IN
CAREER EDUCATION PROJECT (ETC)

MP:ss

Enc.

# ETC STAFF IMPACT ON CAREER EDUCATION

# THROUGH RELATED ACTIVITIES

The presence of the Enrichment of Teacher and Counselor Competencies in Career Education Project on the Eastern Illinois University campus has had impact on many university efforts. In addition, staff members have been called upon to provide career education leadership throughout the United States.

When career education consultants were used to provide input into project activities, the university community was also invited to attend presentations made by the consultants. During the Summer of 1973, approximately 100 individuals attended weekly lectures which were given by visiting consultants. Approximately 25 of the 100 individuals attending the weekly lectures were Eastern Illinois University faculty members.

## Enrichment of Teacher and Counselor Competencies in Career Education Project
## Career Education Distinguished Lecture Series

Eastern Illinois University
Summer, 1973

June 22 Mr. Joel Smith, Director
Cobb County Career Education Project
Marietta, Georgia
"Career Education in Operation"

June 29 Dr. Rupert Evans
University of Illinois
College of Education
Urbana, Illinois
"Career Education--What Is It?"

Ms. Donna R. Chiles, President
American Personnel and Guidance Association
Annapolis, Maryland
"The American Personnel and Guidance Association and Its Relationship to the Career Education Movement"

Dr. John Jarolimek
University of Washington
Seattle, Washington
"Elementary School Career Education and the Social Studies Program"

July 6 Dr. Louise Vetter, Research Specialist
The Center for Vocational and Technical Education
The Ohio State University
Columbus, Ohio
"The Majority Minority: Career Development of Women"

July 13 Mr. Alan Sloan, Executive Vice President
Sutherland Learning Associates
Los Angeles, California
"Curriculum for Career Awareness for Children's Television Program"

July 20 Mr. Michael Zockle, Director
Career Education Project
Warren, Ohio Public Schools
"Career Education for the Special Education Student"

July 27 Dr. Lowell Burkett, Executive Director
American Vocational Association
Washington, D. C.
"AVA and the Career Education Movement"

August 3 Dr. Bertram Caruthers, Assistant to the Superintendent
Kansas City Public Schools
Kansas City, Kansas
"Career Education in an Urban Setting"

August 10 Dr. Ed Houck
The Center for Vocational and Technical Education
The Ohio State University
Columbus, Ohio
"The Comprehensive Career Education Model: The Career Awareness Phase"

## Publications

The project staff has been very active in writing articles for professional publications and writing instructional materials for commercial publishers. An indication of the respect accorded project work is the fact that ETC staff members have been asked to prepare instructional materials for four commercial publishers. Each of the publishers has devised its own format for career education materials and has then called upon ETC staff members to assist with the writing.

One staff member made manuscript content recommendations and wrote teachers' manuals for 15-volume series of books published by Lothrop, Lee and Shepard.

Jobs in Agribusiness and Natural Resources
Jobs in Business and Office
Jobs in Communication
Jobs That Help the Consumer and Homemaker
Jobs That Save Our Environment
Jobs in Fine Arts and Humanities
Jobs in Health Care
Jobs in Recreation and Hospitality
Jobs in Manufacturing
Jobs in Marine Science
Jobs in Marketing and Distribution
Jobs in Personal Services
Jobs in Public Services
Jobs in Transportation

Two staff members have signed a conditional contract with The Center for Applied Research in Education, New York, to co-author a series of career development activities books called CAREER DEVELOPMENT ACTIVITIES FOR CHILDREN IN THE ELEMENTARY GRADES.

One staff member is currently co-authoring a junior high school career exploration series for McGraw-Hill Book Company.

One staff member prepared "Career Awareness," Chapter in 1973 American Vocational Association Yearbook. Washington, D. C.: American Vocational Association, 1973.

Dr. Gilbert Fite, President, Eastern Illinois University authored the career education in higher education chapter of the 1973 American Vocational Association Yearbook. ETC staff provided input into this chapter.

One staff member is authoring Chapter 4 of the first publication to be released by the newly created Office of Career Education, USOE. The publication will be titled, Career Education: The State of the Scene. (In press)

One staff member is authoring workshop materials to accompany 15 films for 9-12 year olds which is being produced by National Instructional Television. The series is titled, "Bread and Butterflies."

Periodicals

Staff members have authored the following articles:

"Career Education: Curriculum Development for the Elementary School" National Business Education Association Forum, February 1974.

"The ETC Project," Illinois ASCD Newsletter, January 1973.

Application of Vocational Development Theory to Career Education, Information Analysis Paper to be published by ERIC Clearinghouse on Vocational and Technical Education, The Ohio State University, 1973.

"Young Children and Self Awareness in the Work World," feature article in forthcoming issue of The Exceptional Child. Issue devoted to career education. Published by Council for Exceptional Children.

"Career Education in the Elementary School: An Evolving Phenomenum," April 1974 Issue of American Vocational Journal (In press).

Presentations Made by Project Staff

Various associations and agencies have requested ETC staff members to make presentations on career education. Invitations were accepted if they fit into the work schedule of the ETC Project. The following presentations were given:

International Reading Association Convention, New Orleans, Louisiana (1974)
Topic: Career Education and Language Arts

Association for Supervision and Curriculum Development Convention, Anaheim, California (1974)

American Vocational Association, Atlanta, Georgia (1973)
Topic: ETC Project

North Texas State University, Denton, Texas (1972)
Topic: Main speaker for Career Education Workshop

Bureau of Adult, Vocational, and Technical Education Staff, United States Office of Education, Washington, D. C. (1972)
Speech before Elementary Education, Counselor Education, and Vocational Education Staff Members
Topic: Career Education in the Elementary School

Southern Illinois University, Carbondale, Illinois (1973)
Topic: Career Education Workshop Speaker

Western Illinois University, Macomb (1973)
Topic: Career Education Workshop Speaker

American Vocational Association, Agricultural Education Division, Chicago, Illinois (1972)
Topic: Career Education for Awareness

American Vocational Association, Industrial Arts Education Division, Chicago, Illinois (1972)
Topic: Career Education

American Vocational Assocation, Business Education Division, Chicago, Illinois (1972)
Topic: A Nationwide View of Career Education

American Vocational Association, USOE Research Reporting Session, Chicago, Illinois (1972)
Topic: Enrichment of Teacher and Counselor Competencies in Career Education

American Education Research Association, New Orleans, Louisiana (1973)
Topic: A Multi-Media System for Career Education

New Mexico State Department of Education, Santa Fe, New Mexico (1972)
Topic: Career Development

Nebraska Education Association, Omaha, Nebraska (1972)
Topic: Career Development

Florida Vocational Association, Miami Beach, Florida (1972)
Topic: Career Development

Virginia Division of Vocational and Technical Education, Norfolk, Virginia (1972)
Topic: Career Development

Illinois Office of the Superintendent of Public Instruction, Springfield, Illinois (1972)
Topic: Career Development

Illinois Division of Vocational and Technical Education, Springfield, Illinois (1972)
Topic: Career Development

Elementary Guidance Education Workshop, Springfield, Illinois
(funded by the Illinois Division of Vocational and Technical Education) 1973

Elementary Guidance Education Workshop, Macomb, Illinois
(funded by the Illinois Division of Vocational and Technical Education) 1973

Career Education Workshop for Elementary Teachers, Joliet, Illinois (1973)

Inservice Meeting for K-12 Teachers, Westfield, Illinois (1974)

Inservice Meeting for Coordinators of Out-of-State Field Testing - Representatives from Springfield, Oregon; Pueblo, Colorado; and Beloit, Kansas - Denver, Colorado (1974)

Career Development Workshops:

Blackhawk Junior College (1972)
Moline, Illinois

Illinois State University (1973)
Normal, Illinois

Southern Illinois University (1973)
Carbondale, Illinois

Northern Illinois University (1973)
DeKalb, Illinois

Business Education and Administrative Office Management Course -
4920 Organization and Operation of Vocational Business Education Programs -
Dr. Chase (1974)

Business Education and Administrative Office Management Course -
4940 Coordination Techniques in Vocational Business Education
Dr. Chase (1974)

Industrial Arts Course - 5722 Innovations in Industrial Education
Dr. Strandberg (1974)

Mark Twain Public School, Charleston, Illinois (1973)
"Career Education"

Human Development class of Dr. Richard Canada (1973)
"Career Education Today"

Methods in Elementary Social Studies class of Dr. Louis Grado (1973)
"Career Education and Social Studies"

Taylorville Schools K-6 Career Education Committee (1973)
"Introduction to Career Education"

Rardin/Lincoln Teachers, Charleston, Illinois (1974)
"Introduction to Career Education"

## Miscellaneous Project Spinoffs

A "Christmas" open house was held during December 1973 for EIU faculty. Approximately 150 faculty members from many different departments attended the open house and viewed displays of project materials.

The project staff is providing the leadership to organize the elementary education interest section of the Guidance Division of the American Vocational Association. One staff member is serving as chairman of the elementary education interest section and another is serving as secretary. The project director was recently elected to a 3-year term on the Policy and Planning Commission of the Guidance Division, American Vocational Association.

A subcontract for the K-9 portion of the Agribusiness, Renewable Natural Resources and Environmental Protection Cluster Project (funded by BAVTE) was was negotiated with The Ohio State University. In fact, staff members at Ohio State approached ETC staff members to see if expertise could be found on the EIU campus to develop the K-9 materials. The ETC project director agreed to feed K-6 concepts to the subcontracted project and to assist the project director of the subcontracted project with project activities. This type of relationship assured coordination between two BAVTE-funded projects.

The Business and Office Education Cluster Project (also funded by BAVTE) at Colorado State University has requested the services of the ETC project director to develop the K-6 portion of the Business and Office Cluster. This effort will again assure coordination with another BAVTE-funded project.

Two staff members taught Elementary Education 4780 - Career Education in the Elementary School - 3 semester hour course - Extension class taught in Pana, Illinois - Fall Semester 1973.

## Graduate Work

One staff member worked half time as project associate while finishing her M.S. in Elementary Education. M. S. research paper presented to the examination board was "Implications of Career Education for the Total Curriculum." She also pursued graduate independent study on the infusion of career education with the social studies curriculum. Resulting paper was entitled "Infusion of Social Studies and Career Education in Grades 3 and 4."

Site Waukegan, Illinois
School Cooke and Greenwood

## FIELD TESTING SITE DATA

| School Demographic Data | Entire District | School Where Field Testing Took Place |
|---|---|---|
| 1. Population | 65,000 | 3000 Greenwood<br>2-3000 Cooke |
| 2. Student Population | 14,446 | 379 Greenwood<br>357 Cooke |
| 3. No. of Elementary Schools | 17 | XXXXXX |
| 4. No. of Middle or Junior High Schools | 3 | XXXXXX |
| 5. No. of Senior High Schools | 1 (2 bldgs) | XXXXXX |
| 6. No. of Public Vocational-Technical Schools | None | XXXXXX |
| 7. Mean Income | $11,000 | $12,000-15,000 Grnw<br>$ 5,000 Cooke |
| 8. Socio-Economic Classification (Rural, Urban, Suburban? Lower, Middle, Upper?--or other appropriate designations) | Suburban-Middle | Middle Greenwood<br>Lower Cooke |
| 9. Per Pupil Cost | $1,050 | |
| 10. Average Daily Attendance | 13,105 | 365 Greenwood<br>312 Cooke |
| 11. No. of Students on Free Lunches | 1,200 | 8 Greenwood<br>120 Cooke |
| 12. Budget Allocation for K-6 Career Education | $5,000 | -0- |
| 13. Reimbursement received for K-6 Career Education | $2,500 | -0- |
| 14. Commitment to Career Education (System-Wide Committee Formed? School Committee Formed? Official Statement by School Board?--or other evidence of commitment) | System Wide | |
| 15. No. of K-6 Supportive Personnel Other Than Counselors: | | |
| Assistant Principal | 1 | 0 |
| Audio-Visual or Media Specialist | 1 | Aides Only |
| Curriculum Coordinator | 1 | 0 |
| Librarian | 1 | 1 Aide per bldg. |
| Nurse | 5 | 2-3 ½ days per week |
| Reading Specialist | 2+7-8 Title I | One Title I |
| School Psychologist | 5 | On Call |
| Speech and Hearing Specialist | 6-7 | 2-3 Half Days Per We |
| Teacher Aide or Other Paraprofessionals | None | None |
| Other | | |
| 16. No. of K-6 Counselors | None | None |
| 17. Student-Counselor (K-6) Ratio | None | None |

6. In the interim between the third and fourth (final) on-site visits (February, 1974 to May, 1974) the following evaluation activities occurred:

   (a) In response to requests for additional information on the supplementary field test sites made by project staff, the evaluators designed an evaluation report outline to be completed by site coordinators and/or secondary evaluators engaged by the primary third party evaluators for this purpose. This outline is shown as Appendix A in the report of the third on-site visit. The information collected using this outline was supplementary to that collected as a part of the field-test process designed and conducted by the ETC project staff. Due date for these reports to be submitted to the Project Director was set as April 15, 1974.

   (b) Field testing at the three supplementary sites was completed during this interim period. The evaluators assured completion of all phases of the field tests through the site coordinators, were responsible for returning tested materials to the ETC project office and for assuring the submission of evaluation reports on the supplementary field test sites.

   (c) Secondary evaluation reports on each of the supplementary field-test sites were completed by persons engaged by the third-party evaluators to provide this ancillary, objective dimension to the total evaluation process. Those who conducted this additional evaluation and prepared the reports included:

Colorado - Robert Cochran
Asst. Director of Secondary Education
Pueblo School District 60
Pueblo, Colorado

Kansas - Dr. Michael Rask
Director, Kansas Exemplary Career Ed. Project
Beloit, Kansas

Oregon - John Davies
Career Awareness Specialist
State Department of Education
Salem, Oregon

John Gaul
Career Awareness/Guidance Intern
State Department of Education
Salem, Oregon

The reports were reviewed by primary evaluators Dunham and Barnes, and submitted to the ETC project director on April 15, 1973. Data from these reports appears in the project final report, Chapters III and IV. Copies of the three reports follows, beginning on page 54.

# SPRINGFIELD, OREGON SUPPLEMENTARY FIELD TEST SITE

## Report of Evaluation of EIU - ETC
## Materials Field Test

Prepared and Submitted By

John Davies

John Gaul

Salem, Oregon

April 15, 1974

The following evaluation of the utilization of E.T.C. career awareness materials at the Springfield, Oregon, supplementary E.T.C. site was prepared by John Davies and John Gaul.

John Davies is the Career Awareness Specialist for the State Department of Education, a position he has held for the past two years. He is a 1961 graduate in Elementary Education from Oregon State University, and also holds a Master's Degree from the University of Oregon in Special Education (1965). John has been teaching for 13 years at all levels including adults. While at the local district, he was the Curriculum Vice Principal, and Project Coordinator for Career Awareness, in addition to his regular teaching responsibilities. John has also found the time to operate his cattle ranch and to conduct a boys' camp for the past ten years.

John Gaul is on leave from his local district and is enrolled in the Vocational Leadership Development Program offered at Oregon State University. As a part of this program, he spends approximately 20 hours per week at the State Department of Education working with the Career Education Section.

John holds a B.S. in Business Administration (University of Oregon, 1958). He is certified to teach basic business courses at the secondary level, is vocationally certified, and has a basic norm in Guidance and Counseling. He has taught the Cooperative Work Experience (D.E. and D.O.) programs at the secondary level for three years. Also at the secondary level he spent three years as the career counselor and Career Education Coordinator.

John comes to education with 20 years experience in business and industry, with the majority of his business experience in the area of marketing, both retailing and wholesaling.

## EDUCATIONAL SETTING

Springfield's school population is 9,693 with a total of 21 schools which includes one religious school There are 14 elementary schools with an enrollment of 5,084 students. There are approximately 250 elementary teachers in the district. The district has been open to trying out new ideas but not much formal evaluation has prevailed. Consequently changes tend to be motivated in isolated circumstances by either strong non-threatening administrators or creative teachers. Priority setting and allocation of resources according to priorities has not occured continuously. The lack of continuity of priority setting at the middle management level has caused most teachers to make do with the resources provided rather than setting priorities in their own instructional program.

| | |
|---|---|
| Springfield population | 27,047 |
| Number of families | 7,305 |
| Children under the age of 18 | 57% of families |
| Head of household -- age 65 and older | 11.7% of families |
| Average number of persons per household | 2.77 |
| Median age of persons in Springfield | 25.5 |
| Median age of persons in Lane County | 26.2 |
| Mean (average) family income | $9,383 |
| Median family income | $9,332 |
| Primary source of income is from wages | 89% of population receives at least part of income fro wages |
| Percentage of population receiving social security | 20% |

| | |
|---|---|
| Percentage of population receiving welfare | 8% |
| Number of persons employed | 9,819 |
| Unemployed rate for males | 10% |
| Percentage of labor force -- women | 43% |
| Percentage of persons employed in craftsmen, transport and other operatives, and non-farm laborer positions | 46% |
| Percentage of persons employed in sales, clerical, and service positions | 36% |
| Percentage of employed residents of Springfield who work in the City of Eugene | 40% |
| Percentage of work force employed outside Lane County | 2% |
| Median number of years of school completed for persons 25 years old and over | 12.0 |

Poverty statistics for people living in Springfield reveal that 2,681 persons (10% of the population) have annual incomes below the poverty level. Over 18% of these persons are elderly. 541 families (7% of all families) live on poverty level incomes. Nearly 18% of such families are headed by persons over 65. Average income for these families is approximately $1,969. The average size of families in Springfield is 3.18 persons, with approximately 70% including children under age 18. 260 families, or 48%, are headed by females and of these, 222 have children under 18. 65% of all civilian male family heads under age 65 are in the labor force and 41% of all poor families are receiving public assistance. 39% of those in poverty in Springfield are homeowners; the remaining 61% rent. The average value of their homes is $10,700; the average gross rent (including utilities) is $91.00.

The sociological characteristics of Springfield and surrounding community are perhaps typical of most communities representative of middle, middle upper, and middle low social stratums. The general age distribution over the past five and six years gives indication of about even numbers of young families, middle age, and seniors in the community. However, the geographic distribution shows a general tendency of some young families and the large majority of middle age families to migrate to suburban areas. The central portion of the community proper is in a period of de-urbanization giving way to apartment complexes in certain sectors and re-zoning for other than residential purposes in other sectors.

Springfield is nearly total Caucasian in its racial characteristics, having less than one percent of other races in the community.

A three hour inservice for teachers was designed and conducted by John Young on January 21, 1974. A copy of the agenda for the inservice is included. The inservice was conducted twice, once in the morning from 9:00 a.m. to 12:00 noon, and again from 1:00 p.m. to 4:00 p.m. Approximately 30 staff members were involved in the inservice. The reaction of the staff was favorable, and 25 staff members signed up to test some of the material. There was no formal follow-up to the inservice program.

The on-site coordinators, John Young and Floyd Hunsaker, spent two to three hours with teachers in the test buildings during the testing of the materials. The follow-up inservice activities were at the request of the involved teachers. John Davies, from the State Department of Education, spent four hours doing demonstration teaching utilizing E.T.C. material.

John Young was graduated from the University of Oregon in 1968 with a degree in elementary education. He is in his sixth year as an elementary teacher for the Springfield District. He also has a Master's Degree in

Curriculum Instruction from the University of Oregon, and is qualified to teach graduate level courses in Career Awareness. John also has some administrative responsibilities as he is the team leader in a Unitized School and the building Coordinator for Career Awareness. Prior to teaching, John spent some time in the Armed Services, three years as a disc jockey, and one year with the Telephone Company.

Floyd Hunsaker is an elementary teacher, who is on leave from his district to participate in the Education Professions Development Act Program at Oregon State University. His intern site is the Springfield district.

The methods and strategies used by teachers in testing the materials is as follows: teachers made choices of units by random selection. Little attention was given to the objectives or the sequencing of units. The teachers appeared to choose according to visual acceptance of react pages.

Due to the short length of time to administer the material, it was difficult for teachers to infuse into their classroom plans. At least 75% of the participating teachers have been involved in career awareness for 2½ years. Some teachers (about 70%) felt that their own self-developed activities were more appropriate. Most of the classrooms involved in the field test operate on a learning center approach and the E.T.C. materials were perceived as teacher directed and not student initiated. This tended to cause teachers to try only a few and not explore the materials to their fullest extent.

The general teacher reaction to materials was that the reading level was observed to be one to two years beyond the level of the children. Too much reading, writing, and not enough doing type of activities was reported by a significant number of teachers (about 80%).

Teachers tended to find that the react pages have little correlation with the concepts or sub-concepts. The react sheets did not seem to fit the activities. The organization was confusing and difficult to understand. Most teachers tore the guide apart and developed their own process for administering activities.

The content level did not seem to be congruent with actual classroom activities. The teachers felt that the content had little or no appeal to the students.

In summary, the teachers felt that the presentation of ideas was far more valuable than the delivery system. The teachers adapted the activities to their own teaching techniques with little concern about the suggested approaches.

The students interviewed reacted quite favorably to the E.T.C. materials. Most of the students felt the activities were fun and interesting. There were a few comments such as: too hard to copy, hard to understand and boring. There was no indication from the interviews that the students were aware or concerned about new materials or ideas being used in their classes. However, this lack of concern may be a result of the students' past experience with career awareness activities.

The data collected from teachers and students does not indicate an awareness of problems or concerns regarding stereotypes, sex, race, age, national origin, and cultural differences. The evaluators did not ask questions directed to the above concerns, and also felt that, if stereotyping was present in the material, it would have been mentioned by teachers and students during the interviews.

Both buildings began career education three years ago through research and exemplary state funded projects. The following is a description of teacher knowledge and experience with Career Education.

School A

Thirteen of the sixteen staff members have had at least 60 hours of inservice involving Career Education concepts, processes, activities and implementation strategies. Four of the staff have had four weeks of summer curriculum development in addition to the 60 hours. Two of the staff members have been utilized as consultants within and outside the district. The three new members of the staff have had about nine hours of inservice this year. Ten of the original thirteen staff members have demonstrated successful career awareness activities in their classroom. Only a few staff were involved in program planning and development. Responsibility was assigned to the building coordinator to carry out the goals and objectives of career awareness staff inservice.

School B

Fifteen of the nineteen staff members have had at least 60 hours of inservice involving Career Education concepts, processes, activities, and implementation strategies. Six of the fifteen have had four weeks of summer curriculum development in addition to the 60 hours. The four other staff members have had 30 hours of inservice spread over last year and this year to date. One of the staff members was trained at Oregon State University as a career awareness consultant. The training lasted for two weeks with approximately 80 hours of work. This staff member has already taught one graduate level course in career awareness this year.

One staff member has been an assistant teacher in three graduate level courses equal to about 99 hours of inservice. He presently is conducting a graduate level course in career awareness as the lead instructor and is contracted to teach two more.

All staff have demonstrated successful classroom activities in career awareness. All staff have participated in program planning and development. All staff have verbally accepted the responsibility for career awareness staff inservice and development.

Both buildings have had an equal opportunity to develop staff competencies and to develop programs. The styles of leadership at the administrative level were the determining factors as to the amount of commitment and involvement each staff has demonstrated.

The role of the principal at both buildings is one of the facilitator. Each is committed to Career Education; they were the only two to demonstrate a desire to participate in the state's Research and Exemplary Program three years ago. Neither principal was closely involved with the evaluation of the E.T.C. material.

The principal at School A is passive and non-directive. He perceives his role as a support person, not as an educational leader. Generally, he is the last one informed as to what is going on in the building. Problems are resolved through reaction and rejection.

The principal at School B is active, aware, empathetic and sensitive to the educational needs of students, teachers and the community. He perceives his role as a convener and clarifies and assigns responsibility to his teachers as they express the need and desire for more leadership training. Problems are usually resolved through interaction, confrontation and consensus.

Implementation and creative use of the E.T.C. material is reflected in the leadership style of the principal. Both staffs are competent and effective teachers, but tend to emulate the leadership model and style of their principal.

Procedures for securing data and information:

- -One member of the evaluation team interviewed the EPDA intern assigned to the project, Floyd Hunsaker.
- -One member of the evaluation team had worked in the district prior to the introduction of E.T.C. material. This member has also worked with both administrators. Much of the previous experience and teacher knowledge data was made available to this person through his direct involvement with the schools.
- -Both evaluators reviewed and critiqued the teacher and student interview sheets. All formal teacher and student interviews were carried out by Floyd Hunsaker.
- -An informal interview was held with five of the 25 staff members who indicated an interest in the material. The five interviewed had used the material more extensively than other members of the staff. One member of the evaluation team conducted the informal evaluation.

Comment

The district was not receptive to providing the evaluators an opportunity to formally talk with the teacher or students. Consequently the interview sheets were of little value except to provide a feeling for what had occurred. Certain key phrases were identified by both evaluators and a follow-up interview was done, as stated above. The informal interview provided the evaluators with more accurate data.

Both evaluators regret that the process of teacher and student evaluation was not discussed and responsibility was not assigned accurately.

The private conclusions of the two evaluators of the E.T.C. project in Springfield are as follows:

- -The system for implementing is too cumbersome.

-The material appears to be developed for a traditional classroom with little recognition of unique learning styles.

-We concur with the teachers' opinion that the material appears to be too teacher directed.

-Academic involvement by students seemed to be paramount in the development of the material.

-There was not a tight enough evaluation system developed to allow for accurate teacher feedback. Example: All the teachers were invited to try the material when in fact one grade from each level from the two schools should have been selected.

-It appeared to the evaluators that the evaluation of the E.T.C. materials was done as an obligatory function, consequently, the use and testing of material was less than desirable.

-The format used for interviewing students and teachers was not designed to identify problem areas in the materials and the process of implementation.

-The timeline provided for assessing and evaluating the E.T.C. material was unrealistic.

-The teachers involved in the field testing were not aware of the results of their work prior, during, or after use.

The two outside evaluators of the Springfield E.T.C. project make the following recommendations to the E.T.C. development team:

-Simplify the implementation process.

-Identify packages of react pages with teacher information pages in Guide; color coding may be desirable.

-Provide for an equal balance of activities in the cognitive, affective, psycho-motor and political domains.

-Provide a professional implementation book that assists a coordinator in understanding the Guide utilization process.

-Provide more pazaz to the Guides.

-To expect a teacher to cover four areas of concentration in one year is unrealistic. We would suggest that during the students' educational experiences, one of the four areas may be in stronger focus. This allows the teacher to select the area best suited for the students. Therefore, grade leveling is not of paramount importance but concept development becomes the criteria for material selection from the Guides.

-If field testing continues then it must be made clear to the teachers involved what their reward is going to be.

-Developing a need for utilization of the E.T.C. materials is critical to the success of the program. The need must evolve from the teacher. Professional assistance must be provided during the initial implementation process.

SPRINGFIELD PUBLIC SCHOOLS
John Young 1/18/74

## AGENDA E.T.C. INSERVICE

January 21, 1974

1. Introduction and purpose of the inservice.

2. "Teacher Data Sheet"
   "Career Education Information Inventory"

3. Skim a guide, especially pages I-XI

4. E.T.C. Summary I

   Handouts:
   "Developmental Dimensions and Major Concepts"
   "Interesting Dimensions and Major Concepts"
   "Career Education Curriculum Model (K-6)"

5. E.T.C. Summary II

   Guides

6. An Infusion Strategy:

   "Curiosity Created the Curator"

7. E.T.C. Summary III

   Handouts:
   "Summary of Field Testing Data Gathering Instruments"
   "Infusion Strategy Questionnaire"
   "Letter to Parents"
   "Evaluation by Parents"
   "Interview Guide for Supportive Staff"
   "Interview Guide for Students"

(Please RETURN all handouts in item 7 before you leave today.(except summary)

# PUEBLO, COLORADO SUPPLEMENTARY FIELD TEST SITE

Test Site Evaluation and Report on EIU-ETC Awareness Materials
Pueblo, Colorado
April 8, 1974

## I. Educational Setting

Central Grade School, Pueblo's test site for the Eastern Illinois ETC Career Education Awareness Materials, is one of 30 elementary schools in a system that includes seven middle schools and four high schools. School District No. 60 has 26,000 students enrolled in a K-12 program with an average daily attendance of 24,900. The District's staff is currently 1,364 supported by 568 people. The District does not employ any elementary (K-6) counselors. There are currently 4,300 students on the free lunch program. The ethnic distribution of students in District No. 60 is: Anglo 57.87%, Spanish-American 39.48%, Negro 2.13%, Oriental .17%, American Indian .19%, and other .17%.

Central Grade School, the test-site school, has an enrollment of 359 with 18 staff members (including principal) and a half time nurse. Its average daily attendance is 337.5 and 119 students receive free lunches. Its student ethnic distribution is 25.41% Anglo, 70.71% Spanish-American, 3.86 Negro. Central Grade is considered a urban inner-city school in Pueblo. The mean income of the families in the Central Grade enrollment area is $6,706 based on employment primarily in the service, clerical, craftsmen, technical and professional areas. The area is considered a depressed area in that 19.89% of the families are on ADC.

## II. Teacher In-Service and Orientation

Approximately two hours were given to orient the teachers to the materials. In-service was provided by Robert Cochran, Assistant Director of Secondary Education and Career

Education Coordinator for School District No. 60, and by Jack Isenhour, Assistant Director of Elementary Instruction. Mr. Cochran received his BS from the University of Minnesota and his MA from the Colorado College. He taught in the District's secondary schools for twelve years prior to four years of middle school administrative experience. Mr. Isenhour received both his BA and MA from Colorado State College in Greeley and has a total of 22 years as an elementary school principal.

The in-service was broken into two one-hour blocks meeting prior to school on Friday, January 11, and again on Monday, January 14. Following a general introduction consisting of the personnel involved with ETC and the methods utilized in developing the material, the teachers were introduced to the basic structure of the material as graphically portrayed by the Career Education Curriculum Model. Following a briefing on the major concepts of both the Interacting Dimensions and the Developmental Dimensions, the teachers were shown the index and briefed on its organization and use. At this time, the organization of the infusion strategies was shown indicating the major concepts and their subconcepts, the teacher goals, the pupil performance objectives, the bibliographies, and the statement on evaluation. The first in-service ended at this time and the material was distributed to the participating teachers. During the second hour of in-service, the teachers were taken through an infusion strategy with emphasis on the infusion of the subject area concepts, the interacting and developmental dimension concepts and the pupil performance objectives. The react sheets were discussed in addition to suggestions as to how additional instructional methods might be incorporated in the unit of study. The balance of the hour was used to answer any questions the teacher had concerning the material. Other than the two hour in-service to the group of participating teachers, there was no further in-servicing either to the group or individually.

## III. On-Site Coordinators

There were no on-site coordinators designated for the field-testing of this material. The two men who in-serviced the teachers were available for assistance. However, no demands were made on them by the participating teachers.

## IV. Methods and Strategies Used by Teachers in Testing Materials

When the EIU-ETC Material was introduced to the teachers, it was pointed out that the testing of this material was to be done only when infusion strategies could be found that would supplement and enforce the lessons that would normally be taught. As a result, it was found that the material was not used as much as one would normally expect in a test-site situation.

Selection of material used was based upon the course-work previously scheduled. When it was found that an infusion strategy would, in fact, supplement the curriculum, it was utilized by the teacher.

One of the conditions set forth in the agreement to test the material was that if an infusion strategy was to be used, it was to be used completely. Therefore, each time a teacher used the ETC material, the complete infusion strategy was used.

Because of the teachers' previous exposure to Career Education Concepts, there was departure from the recommended approaches. In some cases, material was deleted. In other cases, the teachers augmented the strategy with her own material and with outside sources not suggested by the material.

## V. General Teacher Reaction to Materials

In general, the people who have previewed the ETC material and those who actually used the material in their classes were very impressed with the material itself and its organization. The way the material is indexed makes it quite easy to infuse the material in the curriculum.

A basic complaint received was the excessive repetition found. This problem not only increased the bulk of the material, but it made the material much too wordy.

There was praise for the content and for the organization. It was easy to infuse, modify, adapt, and adopt, and it was generally felt that the material was neither too easy nor too difficult for the students.

## VI. Student Reaction to Materials

The students apparently responded well to the material. They entered into the activities with enthusiasm. There were no complaints concerning the ease or the difficulty of the units.

## VII. Problems of Stereotypes, Shibboleths, etc.

There were no problems encountered that dealt with stereotypes or shibboleths.

## VIII. Level of Teacher Knowledge/Experience with Career Education

To the best of my knowledge, all of the participating teachers were enrolled in a Career Education In-Service class conducted by either Glen Rask or Harrell Guard during the 1972-73 school year. In addition, several of the teachers had developed and used a number of career education units with their respective classes. Central Grade School has utilized career education concepts probably more than any other elementary school in District No. 60.

## IX. Role of Building Principal

Mr. Richard Moran, Principal of Central Grade School, has been an advocate of the career education concept since its introduction in District No. 60. In addition to taking in-service classes last year, Mr. Moran has, this past year, conducted classes in Career Education as part of the in-service program in District No. 60.

Mr. Moran has been more than enthused about the field-testing of the ETC materials, and without his active support we would not have been able to use the materials in his school. In a continuum from an agressive to a passive leader, Mr. Moran would tend toward, but not to, the agressive end. He is highly supportive of teaching innovations and works through his teachers in implementing new ideas and changes.

## CONCLUSIONS

There is concern on the writer's part that the ETC Material was not tested in Central Grade School to the extent it should have been. There are several reasons for this.

In the first place, the staff at Central Grade was initially led to believe that they would be able to devote the entire second semester to field-testing the material. Instead of this, the material was in the school only eleven weeks, one of which was Pueblo's Spring Vacation.

Secondly, the Career Education Concept espoused by School District No. 60 is basically one of curriculum infusion. In the in-service, the teachers were directed to use the material as it supplemented pre-planned programs. Though it could be effectively argued that the material could be infused into any lesson, at any level, evidently the participating teachers felt that they were not ready to use some of the material in the infusion strategy even though other material of the strategy would fit well.

Finally, as noted above, most of the participating teachers had broad exposure and experience in Career Education background and teaching. Many felt more comfortable, given the testing time constraints, to use their own material rather than the ETC materi

All who surveyed the material, whether teacher or support personnel, were impressed with its organization. Most felt that the material would be invaluable to have on hand in the building to use throughout the school year. The writer has no doubt but that when the material is finally edited and available, it should become a part of District No. 60's Career Education Program.

Robert Cochran
Assistant Director of Secondary Educatio
Pueblo School District No. 60
Pueblo, Colorado 81004

RC:nah

# GLEN ELDER, KANSAS SUPPLEMENTARY FIELD TEST SITE

## TEST SITE EVALUATION REPORT ON E.T.C. AWARENESS MATERIALS FOR CAREER EDUCATION

(Reported by Michael Rask)

The following field testing site information in preface to our narrative report, as requested, is as follows:

| | District | School Site |
|---|---|---|
| Population | 4,200 | 450 |
| Student Population | 837 | 127 |
| Number of Elementary Schools | 4 | |
| Number of Middle Junior High Schools | 0 | |
| Number of Senior High Schools | 2 | |
| Mean Income | $ 9,500 | $ 9,500 |
| Socio economic classification (rural, urban, lower, middle, upper or other appropriate designation) | rural | small town/rural |
| Per Pupil Cost | $ 914.87 | $ 914.87 |
| Average Daily Attendance | 810 | 134 |
| Number of Students on Free Lunches | 125 | 17 |
| Budget Allocation for K-6 | $ 400. | $ 400. |
| Reimbursement for K-6 Career Education | 0 | 0 |
| Commitment to Career Education. School Committee formed? Official Statement by School Board or other evidence of commitment. | School Committee formed and working | |
| Number of K-6 supportive personnel other than counselors: Assistant Principal, audio-visual, librarian, nurse, reading specialist, school psychologist, speech and hearing specialist, teacher aide or other para professional, other | None | None |
| Number of K-6 Counselors | 0 | 0 |
| Student-Counselor (K-6) Ratio | 0 | 0 |

Glen Elder Elementary-Junior High School is a small rural school located in North Central Kansas. The community population has, over the last ten years, decreased due to the movement of the young people out of the community. The community population, at the present time, is four hundred and fifty.

Glen Elder School was part of a district reorganization whereby the entire junior high school population for the communities of Cawker City, a small community of approximately nine hundred, nine miles away, and Glen Elder were combined with the present elementary school to make the continuance of that facility in Glen Elder economical. As a result, the school operates with six teaching staff members. These staff members have varying responsibilities. Their responsibilities are as follows:

Mrs. Grace Moxter - one half time kindergarten teacher

Mrs. Charli Barrett - full time first-second grade combination teacher

Mrs. Joanne Adell - full time third-fourth grade combination teacher

Miss Kathi McCrumb - full time fourth-fifth grade combination teacher

Mr. Don Buser - full time seventh grade teacher

Mr. Ron McKinnie - full time eighth grade teacher.

Ninety percent of the income to the families of Glen Elder and Cawker City is derived from agriculture. The average income, at present, is $9,500.00 per year. There is at present, a trend leading to an increased size of farming operations and a total decrease in the community population due to families leaving.

On March 4, 1974, the teaching staff and principal of Glen Elder Elementary-Junior High School released all students to attend the building inservice for the use of E.T.C. awareness materials. The inservice was begun at 1:30 and ended at 4:00. The inservice was provided within the building utilizing the small groups.

The inservice on March 4 was begun by discussing in detail the philosophy and structure of Career Education as perceived during the development of the E.T.C. materials. Approximately one hour was committed to this effort. The remainder of the time was utilized to familiarize the teaching staff and principal with the materials and how these materials could be integrated into the ongoing Career Education program within that school.

Three of the six teaching staff members of Glen Elder Elementary Junior High School, had completed a minimum of three college hours in Career Education, which is equal to forty hours of instruction. The remaining three members of the faculty had received only that inservice given within the building prior to the E.T.C. inservice, totaling approximately twenty hours of inservice.

The inservice familiarizing the teaching staff and principal with the E.T.C. awareness materials, was provided by the consortium central office staff:

Michael Rask - Coordinator
Jody Bauman - Materials Coordinator

The coordinator received his Bachelor's degree from California State Polytechnic University, in Agriculture Business Management, 1969; Post Graduate Work in Agriculture Education at California State Polytechnic University, and Fresno State University, Fresno, California; PhD. - March 1974, Adult and Occupational Education; one year - teacher inservice; one year - project coordinator.

Materials Coordinator - six hours Career Education; two years experience on present project as materials consultant (non-degree).

Follow up was handled on an individual basis. Each week the teachers were visited twice by the materials coordinator and once by the project coordinator.

The on site coordinators, Michael Rask and Jody Bauman (previously described) made regular on site visits after the inservice. The major trust of their visits followed two courses. The project coordinator's efforts were directed towards the implementation of planning and use of E.T.C. materials within the classroom. The material coordinator's efforts were directed toward the planning and acquisition of ancillary materials and supplies.

Career Education for the last two years, has been a regular part of the instructional program at Glen Elder. The E.T.C. materials, as the teachers saw them, were most beneficial to them as additional resources and a valuable tool in the continuance of units which they had already planned. Since the nature of the previous inservice was not geared to a specific guide, but rather to meet the needs within the individual classroom, it was impossible for the teachers to begin at a given place and continue through to a predetermined ending. Rather, they selected those strategies and activities from strategies that fit the planning which they had already done for instruction in their classroom.

Many activities within infusion strategies were utilized to accentuate the already planned activities within the classroom. The teachers deviated extensively from the given format of the E.T.C. materials. In our communications with the teaching staff they felt it impossible for them to completely reorganize for the short period of time with which they would have the E.T.C. materials.

Teachers involved in the E.T.C. materials evaluation were well in tune to the concepts, goals and objectives of Career Education before they began their utilization of the E.T.C. materials. Before the reaction of the teachers to the materials can be discussed, it is necessary to make a prefacing statement. It is the teaching staff's unanimous opinion that the short period of time which they had to evaluate their work with the materials did not allow them the freedom of fully utilizing or understanding the materials. Since inservice was not held until March 4, 1974, and final reports and evaluations due prior to April 1, 1974, the teachers felt that four weeks was insufficient time in which to try the materials in their classroom. In spite of this handicap, the teachers have utilized the materials as best they could and regularly respond to our questioning by saying, "the materials are basically good, but we just don't have time to fully integrate them into our ongoing program."

Some criticisms: It is the teachers' belief that the materials do not cover a background of occupations diversified enough to meet the needs of rural youth. In addition, they feel that the academic subject matter may be slightly low for their particular students. As a result, the teachers were given by the coordinator, the right to select activities from grade levels higher and lower than the level designated on the materials to make best use of them.

The teaching staff has modified, adapted, and adopted, a large number of the activities. They do not feel, in their particular setting, that the strategies if precisely followed as patterned, are particularly good. However, they have picked and chosen various activities from within strategies that they feel have been high successful. The teachers have shared with us their philosophy, explaining, if they attempt to adopt the E.T.C. materials in their entirety in their classroom, career education would become an added on study area, rather than an integral part of their instructional scheme.

The teaching staff feels that the organizational format for the E.T.C. materials is excellent and have adapted much of it to their own system. It is obvious, that in the short period of time allowed for evaluation, the teachers were unable to fully utilize the entire format and plan due to its complexity.

The students involved in the evaluation were basically unaware that they were being given new materials. However, they were aware of the high quality and the organization of the react pages. They had, prior to the E.T.C. materials being introduced, become accustom to the activities that are provided when instruction takes on the role of Career Education. They were very cognizant of the fact that they now had fewer occupations to look at than previously. Insofar as we can judge, we feel the student responses to those parts of the E.T.C. materials used were excellent.

Slides and pictures of the students' involvement in career education activities have not had time to return from the developers. Picture and slide records are only kept on major activities.

The building level administration is handled by a two-tenths time principal. His role in the building operation tends to be of a low profile, passive nature. He has, however, verbally supported the efforts of his staff in implementing career education. His involvement in the evaluation of the E.T.C. materials basically has come in the form of communications with the project coordinator and materials coordinator. He did not become actively involved in the testing or evaluation procedure.

# CHAPTER II

## PROCEDURES

During the term of the evaluation of the ETC project (November 15, 1972 - June 1, 1974) the following procedures were used by the third-party evaluators to collect information used for the development of reports included in Chapter I, and for preparation of the findings, conclusions and recommendations shown in Chapters III and IV of this final evaluation report.

### A. On-Site Visitations

1. A total of four on-site visitations were made to the project, including three to the project headquarters at Eastern Illinois University, Charleston, Illinois and one to the primary field-test site at Waukegan, Illinois.

2. A total of twenty-four (24) man-days time were spent on-site, not including travel to and from project sites.

3. A total of thirty-three (33) man-days time were spent in off-site work, including report development, information review, written and telephone communications with project staff, attending meetings related to the project and its evaluation, and coordinating work at the supplementary field test sites.

4. A total of forty-five (45) man-days time for third-party evaluation was promised in the evaluation proposal (alternative proposal). In total, fifty-seven (57) man-days time were provided by the third-party evaluators over the 18½ month period of project evaluation.

5. During on-site visitations, the key data and information gathering procedure used was personal interviewing of project staff, field test site faculty, and university and other administrators related to the project.

6. Interviewing was based upon key concerns, criteria, or project dimensions identified jointly by evaluators and project staff prior to each on-site visit. These items are shown as evaluation objectives in each report included in Chapter I.

7. Evaluators provided formative input at each on-site visit on Administration/Management strategies, materials development processes, test instrument design, field test procedures, documentation and reporting steps, and other issues related to supporting-monitoring-assessing the ongoing process of project development.

8. The style utilized by evaluators was participatory-consultative. Considerable openness was achieved at each visit, with project staff members and evaluators interacting in a positive, supportive manner, while retaining the necessary objectivity and perspective needed in useful formative style, interim assessment methodology.

9. Data and information were normally collected by the evaluators in written and tape-recorded form. Following each on-site visit, these data and information were reviewed, synthesized and utilized as the basis for each interim and the final report. Additional information collected by mail or telephone was treated likewise, and used for monitoring and reporting purposes.

10. Statistical treatment of field test data was part of the project's internal evaluation.

B. Supplementary Field-Testing of ETC Materials

1. A unique feature of this evaluation was the role played by third-party evaluators in adding supplementary field testing opportunities to the original project field test scope. In the evaluation proposal, the evaluators proposed additional field-testing as a part of the third-party evaluation effort. The proposal offered up to eight additional (two in each of four states) as one alternative each or three additional sites (only one in each of three states) as a second alternative. ETC project administration chose the second alternative of three supplementary field test sites.

2. As reported in Chapter I, activities related to the supplementary field-test dimension of the third-party evaluation included:

   (a) Selection of three test site school districts having among them important differences in demography, social setting, size, geographic location, income level, experience in career education, racial-ethnic mix, educational program direction and administration.

   (b) Selection and orientation of test site coordinators. Briefing/orientation was provided on January 7, 1974 in Denver by an ETC staff member to coordinators from each of the three test sites.

   (c) Design of outline for secondary evaluation of supplementary field-tests which met information and data needs of the project. These data were in addition to those collected by the test-site coordinator as a part of the project's internal evaluation component related specifically to the materials. (Outline is Appendix A of Third Evaluation Report, Chapter I of this Report).

   (d) Selection by third-party evaluators of secondary evaluators (one each in Kansas and Colorado, two in Oregon) to conduct the test-site evaluation following the outline described in (c), above.

   (e) Preparation of evaluation reports by the four secondary evaluators.

   (f) Review of test-site evaluation reports by third-party evaluators, and submission of reports to the ETC project director.

C. Final On-Site Visit and Final Evaluation Report

1. Specific procedures and outcomes utilized in conducting the final on-site visit are outlined in the following Chapter.

2. The final report was developed by primary evaluators Dunham and Barnes and associate Glau. All previously collected data and information were reviewed, synthesized and utilized in the preparation of this report. All materials produced through the project were reviewed during the final on-site visit. All key project staff members, plus the Dean of the School of Education at Eastern Illinois University and a member of the project's National Advisory Committee were interviewed. Results of these procedures are in Chapter III, Findings, which follows.

## CHAPTER III

## FINDINGS

The final on-site visitation was conducted by Dr. Daniel B. Dunham, primary evaluator, and Dr. Jon E. Glau, Associate, on May 6 and 7, 1974. The visitation was to gather information which had not previously been submitted to the evaluation team and to serve as an overall final evaluation of the materials and procedures of the project. Summary intervie were held with all project staff members.

The final site visitation was made based on the following points:

1. Quality and quantity of Career Education materials produced.

2. Procedures and methodology used in the project.

3. Impact of the Career Education materials on test-site schools.

4. Administration and management of the project.

5. Overall assessment of the value of project efforts.

6. Publication and dissemination of project materials.

These points serve as the format for reporting on both the final visit and on the total, summative evaluation of the project in the following sections.

A. Quality and Quantity of Career Education Materials Produced

The career education materials produced through the project included an Annotated Bibliography, three curriculum guides (one each for levels K-2, 3-4 and 5-6), Concepts and Components document, and the "Professional Book" tentatively titled "Career Education Designs and Decisions".

1. The Annotated Bibliography is a one-hundred ninety seven page document which lists some of the career education materials available **from across the nation and includes commercial and**

non-commercial materials, films and film-strips. The publication is attractive, well organized, and useful to a teacher developing Career Education activities in a classroom.

2. The Curriculum Guides are sets of teaching-learning units which in total contain 56 "Infusion Strategies" (or instructional units) arranged in three grade leveled sequential documents for grades K-2, grades 3-4, and grades 5-6. Each carries out the Career Development Major Concepts Theme, including emphasis on decision making, readiness, educational awareness, coping behavior, attitudes and appreciations, etc.

   Results of field tests indicate that materials are generally useful to teachers, were easily modified or adapted, can be used either as a continuous instructional series or can be drawn from at random to provide useful teaching-learning activities in support of an on-going instructional sequence in the elementary classroom.

   It is also apparent that the materials are developed so as to be consistent with the popular concept of infusion/integration for career education program development; have built-in flexibility allowing use with most subject area disciplines; have excellent grade level flexibility; are adaptable and/or adoptable in a variety of elementary education settings and are attractive, neatly and professionally prepared.

   In the view of the evaluation team, these curriculum materials are some of the finest available today for a clientele of teachers and counselors at the elementary level who are anxious to have access to the kinds of information, ideas and teaching-learning activities included in these three guides. The curriculum materials produced through this project represent, both in quality and quantity, a major achievement in curriculum development for career education.

3. The Concepts and Components document brings together, in a single product of the project, the central "dimension frameworks" of concepts, subconcepts, teacher goals and pupil performance objectives for each of the seven career development dimensions (attitudes and appreciations, career information, coping behaviors, decision making, educational awareness, life style, self-development) identified and developed by the ETC staff as essential to a career education program.

   This publication provides opportunity for the potential user-teacher or counselor-to preview a dimension with regard to rationale and relationships among the three kinds of content: concepts, teacher goals, and pupil performance objectives. Ideas for adaptation of the materials and their use as integration or infusion activities are stimulated by the format of this document, the logical and sequential presentation of information, and the attractive layout and use of graphics.

This document is an essential dimension of the materials produced by the project, and is considered by the evaluators to be a highly useful component in the effective classroom use of the curriculum materials.

4. The "Professional Book", while not in final form at the time of the final on-site evaluation, was complete enough for review. This document, which when published in book form, may be entitled "Career Education: Designs and Decisions", describes the philosophical and educational bases for the curriculum materials. **Where** the "Concepts and Components" document addresses the "How to" of the materials, the professional book addresses the "Why" and provides the basic rationale or conceptual framework for this curriculum development effort.

   Development of the professional book was, in part, a response to results of field testing. Teachers at field test sites objected to the bulk of the materials, much of which was made up of the content of the present professional book. Moreover, the project staff believed that a supportive document of this type, as a separate publication, would have considerable utility for career education program planners and developers and for certain professional development efforts of both an inservice and preservice nature. Although the extent of this utility is yet to be determined, the evaluators are of the opinion that the book will serve the purposes intended in a worthwhile fashion.

## B. Procedures and Methodologies Used in the Project

### 1. Research and Development Procedures

Five project phases were identified early in the project. These phases, explained in detail in the Project Final Report, Chapter II, included:

(a) Search Phase - which resulted in the Annotated Bibliography;

(b) Formulation of Objectives Phase - which resulted in the document A Curriculum Design: Concepts and Components;

(c) Curriculum Guides Phase - which resulted in the three grade leveled guides described earlier.

(d) Field Testing Phase which resulted in testing of materials by practicing teachers in real school settings, served to validate the curriculum guides, and provided considerable data which project staff have used in refining, reorganizing and modifying project products.

(e) Dissemination and Utilization Phase which has resulted in indications of interest from commercial publishers but has not yet been brought to fruition.

In the case of each of the phases described above, project staff utilized the best available resources and proven strategies in progressing through research and development to produce results. Key resources were project staff members who all possess high levels of expertise in this area.

Third-party evaluators were involved to varying degrees in each of these phases. For the first three phases enumerated above, the evaluators primarily served a monitoring and consultative role. Review of the reports of the first and second on-site visits (included in Chapter I of this report) will identify the specific formative input provided by the third-party evaluators for phases 1 through 3.

The fourth phase, Field Testing, had considerable involvement of third-party evaluators. Initially, the evaluators reviewed assessment instruments designed by project staff to accompany materials testing at the primary site in Waukegan. Evaluators input on instrument design was received at and following the second on-site visit. A report of these actions is included in Chapter I of this report.

The primary evaluators visited the primary field-test site on the third on-site evaluation visit. A report of that visit including formative third-party evaluation input, is in Chapter I.

As previously described in Chapter II, PROCEDURES, the involvement of third-party evaluators in field testing of project produced materials at supplementary test sites provided by the evaluators through the evaluation contract, was a unique feature of the external evaluation dimension of this project.

The outcomes of the supplementary field testing process are described in detail in Chapters III and IV of the final report of the project. Procedures used are described in Chapter I of this report.

Project staff agreed that this strategy for provision of additional testing opportunities contributed significantly to the validation of the curriculum materials. A broader range of educational situations was made possible and at no significant additional cost to the project (except costs of printing sets of materials for use at each additional site, and costs of mailing).

The involvement of third-party evaluators in this manner has been found to be positive and useful. The evaluators were able to become considerably more familiar with project products than would likely have been the case otherwise, and were enthusiastic about this kind of participation. It has already been reported that more evaluator time was devoted to direct work with the project and its products than had been forecast in the evaluation proposal. The evaluators believe this extended effort is attributable to the concept and practice of supplementary field-testing through the evaluation contract.

Third-party evaluators were able to retain objectivity with regard to the outcomes of this strategy by engaging, at their expense, five secondary evaluation consultants to actually conduct the monitoring of supplementary site field testing and to prepare reports of the testing outcomes. The primary evaluators reviewed and modified, as necessary, the reports submitted by the secondary evaluation consultants before submitting the reports to the project director.

The Dissemination and Utilization phase of the project has presented perhaps the most difficulties to project staff. At the time of the final evaluation visit, a publisher had not yet been engaged by the project to accomplish this critical phase. It is apparent to the evaluators that commercial publishers are not anxious at this time to become involved in publication and dissemination of materials such as those produced through this project. Most commercial publishers are primarily concerned with publishing and marketing products with which their organization has had some, if not toal, involvement in developing. While this posture is understandable from at least an economic standpoint, it presents a difficult if not curious situation for project management to deal with. It is hoped that a publisher will be contracted with before the project terminates. If this does not happen, it will be extremely critical that the U.S. Office of Education project monitor intervene. Such intervention is essential if these excellent curriculum products are to reach local teachers and administrations who are continually asking for just such material support for their efforts to implement career education programs.

## 2. Evaluation Strategies and Procedures

The evaluation design utilized in this project is thoroughly described in the final report of the project, Chapter III, PROCEDURES. The evaluators review of this important dimension of this project produced the following findings:

(a) Micro evaluation resulted in internal assessment and evaluation by project staff of several key elements, particularly at the beginning of the project. Data gathering concentrated on the search phase, described earlier in this section, which resulted in the annotated bibliography. In addition, project staff gathered and assessed considerable amounts of data which was descriptive and direction-giving in nature which was used in the early efforts to build a sound educational and philosophical base for the project, to begin to delineate key concept areas, and to initiate the development of the most plausible infusion strategies. These efforts are found to have taken place with great attention to detail in process, with considerable on-going documentation of information and data thus gathered, assessed, synthesized and utilized.

(b) Macro evaluation by the project staff of the entire project aimed at obtaining an overall assessment of the value of project efforts might best be described as "on-going, formative internal evaluation". This strategy is based upon the positions of Guba and Stufflebeam as related in Chapter III of the project final report. The activities related to this strategy are found to have served a key role in assisting project staff to maintain a clear perspective of their tasks, and to keep on target with the objectives of the project proposal. The product results of the project, their form, content and intent, are perhaps the best evidence that internal assessment was effectively at work in this project. Further evidence is found in the thorough documentation of project developmental steps found in Chapters I, II and III of the project final report.

(c) Meta evaluation by the third-party evaluators has been described in considerable detail in Chapter II, PROCEDURES, of this report, and in related findings in this Chapter.

## C. Impact of the Career Education Materials on Test Site Schools

Review of the results of curriculum materials field testing at the one primary and three supplementary field test sites, as documented in Chapter IV, FINDINGS, of the project final report, and in the three separate reports of supplementary field test sites included in Chapter I of this report, indicates the following summary findings regarding impact of the materials on the test site schools:

1. In general, teachers involved were enthusiastic about participating in the field testing procedure. They willingly adapted ideas and strategies suggested by the curriculum guides, and found most to be useful for the intended purposes.

2. The format and presentation of content was judged by teachers to be understandable, attractive and lended to the ease of use.

3. One of the test site schools was less willing to utilize the materials than the other three. This situation is attributable, in part, to the extended experience (nearly four years) which many of the teachers at this site had in developing their own career awareness instructional materials. Previous and current career program development projects in this district had sensitized teachers to designing, testing and implementing their own ideas for career awareness. The sense of involvement and ownership resulting from this sensitization and practice was at least one reason for their less than enthusiastic acceptance of materials developed by "someone else".

4. Students seemed to respond positively to the materials, and in several cases were noticeably more enthusiastic than their teachers about the activities and exercises stimulated through the field-testing process.

5. Most teachers involved wanted to continue to use the materials through the balance of the school year, and were disappointed when the materials had to be removed and returned at the end of the field-testing period. Several felt that the test period was too short, and wanted to continue using the materials.

6. There is limited documented evidence at this time to support the idea that the field-testing of materials will stimulate further developments in career education in the test site schools. However, the evaluators find, in reviewing the reports of secondary evaluation of the supplementary sites, that there is some indication in two of the three reports that, in fact, such effect may be realized in the long run. A letter to the project director from the field test coordinator of one of the supplementary test site schools indicates that field-testing of the materials will have a lasting effect at that school, that additional activities to those suggested in the guides have already been developed, and that continued use of the materials, when they become available for purchase, is planned. Further evidence of impact for change caused by field testing is found in Chapter IV, FINDINGS, of the project final report. Here are listed a series of teacher initiated activities and ideas which were not in the materials but were stimulated because of using the materials, according to data collected through field test evaluation procedures.

7. In general, it was found that the field-testing procedure was treated in a positive manner by all four schools involved. The impact on teachers, students, administration, and general program operation was also substantially positive. The orientation provided teachers prior to the testing process was adequate in all cases, based on results of project-conducted evaluation. While a venture of this kind is sure to interrupt the routine of a school program under the best of conditions, it appears that the planning, foresight, orientation sessions for site coordinators and teachers, and the evaluation and documentation strategies used throughout the field testing process, reduced the interruption factor to one of modest significance.

## D. Administration and Management of the Project

1. Throughout the evaluation processes, the evaluators found the administration and management dimension of this project to be a particular strength. The staff-team concept developed and actualized throughout the project term by the director provided a working atmosphere in which communication appeared to be consistently excellent, ideas were generated both thoughtfully and spontaneously, tasks were accomplished in an academically stimulating setting, and progress was regularly and carefully documented. The results of such a situation should be a high level of top quality and substantial quantity products. Such has been the case with this project. The evaluators feel confident in attributing the success of this project to two primary factors:

(a) The expertise of project staff.

(b) The management/administrative style applied to project operation.

2. The single most difficult issue with which staff had to deal, according to results of interviews with each staff member, was the matter of deciding upon a format for the curriculum materials. After considerable research and evaluation, and trials with several alternatives, the format shown in resultant project products was designed, tested and adopted. The process followed in making this decision was made possible, in large measure, by the management and operational style employed in the project.

3. When asked to identify the most important factor contributing to the success of the project, every staff member named "good communication and working relations among the project staff". This is considered to be a very significant finding, and is further evidence of the unusual strength of the management/administration dimension of this project.

## E. Overall Assessment of the Value of Project Efforts

1. The evaluators have found substantial, well documented and significant evidence that the efforts of this project have produced career education curriculum materials for elementary school (K-6) programs which are:

   (a) Of high quality.

   (b) Easily adaptable for use in a variety of settings at the K-6 level.

   (c) Flexible with regard to level of difficulty at grade levels.

   (d) Attractively arranged on an understandable and useful format.

   (e) Supported by useful documents which detail the philosophical, educational and conceptual bases upon which they were developed.

   (f) Of excellent quantity in relation to costs per unit of development and to normal quantitative outcome expectations of a project of this scope.

2. The developmental process utilized in this project possesses dimensions of administration/management, research, development, field-testing, analysis, revision and review of such high value as to be considered a model for curriculum development projects which may follow.

## F. Publication and Dissemination of Project Materials

1. The publication and dissemination of the materials produced through this project remains the single unfinished aspect. The project administration has made concerted efforts to accomplish this important dimension. At the time of the final on-site evaluation visit, the issue of publication had not yet been resolved. At least three possible alternatives were still alive at the time of the final visit, and were being diligently pursued by the project director. The director was very hopeful that a commercial publisher would be engaged within two weeks of the date of the final evaluation visit.

2. The administration of the School of Education at Eastern Illinois University has indicated full support of the project in its efforts to secure a publisher. All necessary arrangements of an administrative nature have been made through the University should a publisher be secured. No difficulties in entering into a publication contract are anticipated as far as the University is concerned, according to the Dean of the School of Education and the project director.

3. Dissemination of the published products of the project clearly depends upon publication. Broad based, nation wide dissemination is planned for. The specific strategies and vehicles for dissemination and distribution (beyond that already made by the project administration of limited copies of certain products to key career education officials in the fifty states) will necessarily be developed with the publisher.

4. It is the opinion of the evaluators, based upon these findings, that every effort should be made by officials at all levels who are involved with this project, to resolve the issues surrounding publication and dissemination of these high quality career education curriculum materials. This should be done at the earliest possible time if elementary teachers, counselors, and students are to benefit from the productive investment of taxpayers dollars in this venture.

   The return on those dollars has been high thus far. It would be a gross disservice to the public and to education if this project falls short of meeting this final objective because of the apparent hesitancy of the commercial publishing industry to invest in the future of career education with a product that appears to the evaluators to be sound and salable.

# CHAPTER IV

# CONCLUSIONS, RECOMMENDATIONS, AND SUMMARY

## CONCLUSIONS

The following conclusions were reached by the third-party evaluators of the "Enrichment of Teacher and Counselor Competencies in Career Education Project (ETC)" K-6 as performed by the Center for Educational Studies, School of Education, Eastern Illinois University, Charleston, Illinois. The conclusions cover the scope of the project in relating to the output of the project, the methodology in producing curriculum materials, the management of the project, documentation and reporting.

The conclusions that follow are based upon the findings in Chapter III of this report, and upon the total experience of the evaluation team during its eighteen month involvement with the project.

1. The quantity of materials far exceeded the amount of materials produced in similar projects.
2. The quality of the curriculum materials is excellent.
3. The methodologies used to develop the curriculum materials were exemplary.
4. The management of the project was excellent and is a reflection upon the project directors' competencies.
5. The cost benefit (cost per unit of materials produced) of the curriculum project exceeds other projects in which evaluators have been involved.
6. Documentation in reporting the project (as indicated in the project final report) is exceptional in detail, makes it possible to easily follow the procedures used to develop outputs and significantly enhances the potential transportability/repilicability of the project.
7. The relatively short time period provided for this project was a limiting factor in achieving a full measure of in-depth field testing and revision of materials resulting from field test outcomes.
8. The third-party evaluators had a very good working relationship with the director, staff and University of Eastern Illinois.

## RECOMMENDATIONS

The following recommendations are made for the improvement of future projects which may be funded by the Curriculum Center for Occupational and Adult Education, Bureau of Adult Vocational and Technical Education, U.S. Office of Education for further curriculum study.

1. A longer time period for the planning, development, and operation of a project of this scope is recommended.

2. More field test time and field test sites should be provided. However, the field test sites and field test time for this project were adequate to validate the curriculum materials.

3. Field test procedures **provided** valuable input and should be used in all curriculum materials development projects.

4. Budgets for curriculum projects should be increased to:

   (a) Increase the number of staff members involved in curriculum materials development and testing.

   (b) Provide for increased field test time and number of sites utilized.

   (c) Follow up the use of curriculum materials for three to five year periods after materials are disseminated.

   (d) Print more material for initial use in the evaluation of the project.

5. Increase the amount of inservice training provided faculty members at test site school before using materials.

6. Pretest and post-test achievement scores of students are needed in order to more effectively measure project impact.

7. Publication and dissemination of products of this project remains a critical factor and must be resolved at the earliest possible time if these quality career education materials are to reach the classroom. Intervention by the U.S. Office of Education project monitor may be necessary to accomplish this task inasmuch as the project end date is imminent, and no substantial funds or time remain to bring this dimension to peak. An extension of time with supplemental funding to complete this dimension would appear to be in order.

8. A planned one, three and five year formal follow-up of use of these materials in the field is strongly recommended as an applied research-type project.

## SUMMARY

It is the opinion of the evaluators that the project director and staff of the "Enrichment of Teacher and Counselor Competencies in Career Education Project (ETC)" K-6 project is an excellent resource team and should be utilized in the development of future career education curriculum development projects. The expertise and experience represented by this director and staff would eliminate many early project development steps in future projects, which could substantially increase the amount of time made available to materials construction, field testing, validation and revision.

Overall, this project is rated as excellent by the third-party evaluators. The conclusions stated earlier are offered as clear evidence that all terms of the curriculum development contract (proposal) were met. The output of this project will be a major contribution to the teaching-learning of career development concepts in the elementary schools of the United States.

This project is at an end. For many teachers and counselors of elementary students throughout the country who desire to develop career awareness opportunities for their learners, and who need information, materials, ideas and suggestions to achieve that goal, the results of this project may well be...

THE BEGINNING

# APPENDIX A

# PROPOSAL
for
THIRD PARTY EVALUATION
of
Enrichment of Teacher and Counselor Competencies in Career Education Project
at
Eastern Illinois University
Charleston, Illinois

Proposal Submitted by

Robert Barnes
Aurora, Colorado

and

Daniel Dunham
Salem, Oregon

and

Associates

October 27, 1972

# ABSTRACT

## PROPOSAL FOR THIRD PARTY EVALUATION OF EASTERN ILLINOIS OBSERVATION PROJECT IN CAREER AWARENESS EDUCATION ENTITLED "ENRICHMENT OF TEACHER AND COUNSELOR COMPETENCIES IN CAREER EDUCATION PROJECT"

Principal Investigators: Robert Barnes, Aurora, Colorado
Daniel Dunham, Salem, Oregon
And Associates

**Problem:** To develop and implement a system of evaluation which will have formative input and summative output for the dissemination to other schools of the procedures and materials developed by the project.

**Funds Requested:** $18,400 (With attached alternative)

**Procedure:** Evaluation will be conducted by a team headed by the Principal Investigators. The evaluation design will include on-site visitations to determine the needs of the evaluation. Evaluation instruments will be designed and used to collect data and information to determine the effectiveness of the project. Processes and materials developed by the project will be field tested on practicing teachers and administrators on a short-term basis in the four states of Colorado, Kansas, Oregon and Tennessee. The specialists in Career Education from these four states have expertise which is broadly based and necessary to a good evaluation. Using short-term field test of processes and materials will insure the quality of the program and give the project national visibility.

## 1. PROBLEM

The evaluation of the Career Education Project at Eastern Illinois University, which is to develop teacher and counselor competencies, must from the beginning have formative input into the project. This input must act as an indicator of how well the project succeeds in reaching its goals. Participatory evaluation is the key to the evaluation and must be more than a document produced after the completion of the project.

Goals must be set early in the project by interaction between the planners of the project and the evaluation team. The need for evaluation must be listed in terms of specific goals and objectives of the project so an adequate evaluation and a useful summative report can be completed. The need for a broad based evaluation is necessary for the project to have national visibility with the reliability insured by short-term field tests by the evaluation team.

## 2. OBJECTIVES

The objectives of the evaluation are to serve as indicators of success of the project for the development and use of materials for enrichment of teacher-counselor competencies. The process of evaluation is formative and the input will determine the processes and place the products in proper context. These products may be used for teacher and counselor enrichment in Career Education programs.

Evaluation strategies will be determined and thereby enable the project director to have broad based evaluative input.

Maximum use of proved Career Education materials that have been developed will be used by the resources/research team. Additional Career Education materials and processes that are developed by the project will be evaluated. A summative report will be submitted at the completion of the evaluation.

## 3. PROCEDURE

Basic elements of the evaluation design will include the following assessment components to produce information for effective decision-making based on evidence of accomplishment of project goals and objectives:

a. Context and Input Evaluation - Verify and clarify program goals and objectives at all levels by project administration and appropriate staff.

b. Establish Evaluation Perspectives - Define assessment level and establish evaluation purpose for each level according to the plan described above.

c. Evaluation Description - Determine evaluation requirements, timing, and format.

d. Establish feasibility and credibility of the design.

e. Implementation of the Evaluation - Initiate the plan, accumulate data and information, interpret and prepare reports.

f. Evaluation - Compare observed outcomes with intended outcomes, reach conclusions, render judgements.

### A. General Design

a. Assessments of quality and usefulness of educational products, processes, and materials produced based upon:

   (1) Reliability and usefulness of units and components as assessed by field practitioners (e.g. local elementary teachers and counselors).

   (2) Congruence of short-term, mid-term and long-term product output [illegible]th proposal objectives and activities (Utilizing a design similar to, or a modification, of the State congruency matrix).

b. Initiate validation and verification of project goals, objectives and activities through a preliminary on-site assessment and review conducted by the primary evaluators in participation with project administrators.

c. On-going, continuous evaluation of interim products and processes of project, based upon the following plan for utilizing a broad based, geographic representative team of Career Educators.

B. Analysis

a. Following an initial on-site assessment by four representatives of the evaluation team, procedural steps, as outlined in Procedure, will be evaluated in a fully participatory decision-making style with project administrators.

b. The full nine members evaluation team will conduct an annual on-sight assessment of at least three days duration at the end of the first project year (on or about June 15, 1973).

c. Evaluation modification for the second and final year of the project will be determined following the first on-site assessment.

d. Evaluation recommendations regarding usefulness and potential for replication values of project outcomes (both process and product) will be based upon a compilation of results of reference/resource team inputs and evaluation team judgements of the congruence of overall project objectivity with actual project outcomes.

e. A project timeline covering the period November 1, 1972 through June 30, 1974 is attached. Refinement and modification of this timeline will be accrued during the first interim on-site assessment scheduled for December 15 and 16, 1972. Adoption of the timeline, as modified, will constitute closing negotiation for this proposed evaluation contract.

4. PERSONNEL

a. The Project Directors for the evaluation are Dr. Robert F. Barnes, Director of the Research Coordinating Unit of the Colorado State Board for Community Colleges and Occupational Education and Dr. Daniel Dunham, Coordinator, Applied Research and Exemplary Programs, Career Education, Oregon Department of Education.

b. Members of the broad based Career Education evaluation team possesses expertise in program and project development and implementation in Career Education in their respective states. In addition, they have participated in evaluation of recent and current Career Educator projects at local, state, regional, and national levels; and have had direct involvement in local, state, and regional projects in Career Awareness including teacher development, counselor development, directing and reviewing projects, determining what produces new and innovative strategies for curriculum and staff development for teachers and counselors at the grade K-6 level in each of the four respective states. They have the capability to capture additional local and state resources (both human and material) to enhance the evaluation effort through immediate short-term reaction and feedback on products and processes of the project.

c. Each member of the evaluation team will identify two resource/reference teams of the Career Awareness practitioners (teachers - counselors) from the local educational agencies at the action level to serve the function of test and react to products and processes developed in the project. The reference/resource teams will be utilized within each of the four states represented and will be composed of five to ten practitioners each. One team in each state will include individuals with recent or current experience in Career Awareness program development, including staff development efforts, production of teacher guides, guidance and counseling staff development, evaluation, and project replication.

A second team of practitioners will include five to ten teachers and/or counselors who have not had direct recent experience or involvement in Career Awareness programs. The object of the second reference/ research team is to provide a third dimension of purely objective assessment of outcomes of the project in terms of their reaction to the process, potential of the ideas, and materials developed, in a setting of "varied exposure" to such materials and processes.

d. Each of the nine members of the evaluation team will orient two reference/ research teams from their respective states, Colorado, Oregon, Kansas and Tennessee, and will specify their roles in this evaluation effort no later than February 1, 1973. A potential input of two hundred field-based practitioners is assured by these participants in the evaluation effort through this strategy.

e. The reference resource teams will be available to react and respond to project outcomes on a short-term, immediate feedback basis. It is anticipated that members of the evaluation team will utilize their respective reference-resource teams from four to ten times each during the project duration, depending upon the specific needs for this activity.

f. Feedback information resulting from the reference/resource team reviews will be delivered to project administration on a regular basis, in a series of continuous interim reports.

The following is a list of the personnel with the Directors that will staff the resource team. A complete vita for each individual is attached for your information.

Dr. Garry R. Bice, Director, Tennessee RCU, Knoxville, Tennessee.

Dr. David Clapsaddle, Teacher Educator, Career Education, Wichita State University, Wichita, Kansas.

Dr. Bert Carruthers, Assistant Superintendent, Kansas City Public Schools and Director, Kansas Exemplary Project in Career Awareness, Kansas City, Kansas.

Dr. Richard H. Edsall, Supervisor of Evaluation, State Board for Community Colleges and Occupational Education, Denver, Colorado.

Dr. Jon E. Glau, Assistant Director of Curriculum and Instruction for State Board for Community Colleges and Occupational Education, Denver, Colorado.

Dr. Donald Gilles, Coordinator, Program Development and Evaluation, Salem, Oregon.

Dr. Richard Gardner, Career Teacher Education, Oregon State University Corvallis, Oregon.

## 5. BUDGET

The proposed budget for $18,400 for accomplishment of the evaluation described herein, is attached.

An alternative evaluation project budget in the amount of $7,500 is also attached. It is necessary to point out that the alternative budget represents a minimal evaluation input to this important project. The choice of the alternative budget by the administration for the evaluation would severely limit the project for future replication and the transportability of the developed materials. The alternative evaluation budget is subject to negotiation.

## BUDGET
## (Full Proposal)

| | |
|---|---|
| **Personnel** | |
| 9 Reference/Resource Persons at 10 days each | $ 9,000 |
| 1/8 Secretary at $6,000/year for 2 years | 1,500 |
| **Travel** | |
| Air fare and ground transportation from Oregon, Colorado, Kansas and Tennessee to Charleston, Illinois | 6,400 |
| **Supplies and Materials** | 1,300 |
| **Telephone** | 200 |
| **TOTAL** | $18,400 |

## (Alternative Proposal)

| | |
|---|---|
| **Personnel** | |
| 9 Reference/Resource Persons at 5 days each | $ 4,500 |
| Secretary at $2/hr. for 250 hours | 500 |
| **Travel** | 2,000 |
| **Supplies and Materials** | 400 |
| **Telephone** | 100 |
| **TOTAL** | $ 7,500 |

## Proposed Timeline of Major Evaluation Activities

| | | |
|---|---|---|
| November | 1. | On-site assessment to verify and clarify goals and objectives and develop specifics of the evaluative process. |
| | 2. | Develop student-based assessment instruments—objectives indicators base. |
| | 3. | Conduct student pre-tests. |
| | 4. | Develop staff assessment instruments. |
| December | 5. | Interim on-site evaluation visit. |
| | 6. | Conduct selected staff interviews. |
| | 7. | Develop and submit Evaluation Report #1 |
| January | 8. | Conduct mid-year testing. |
| | 9. | Collect information and data on first semester projects and activities. |
| | 10. | Submit material to reference resource teams. |
| | 11. | Compile and interpret results from teams. |
| February | 12. | Interim on-site visit to review team reports. |
| | 13. | Conduct additional staff interviews. |
| | 14. | Submit interim evaluation report. |
| | 15. | Continue submitting material to reference resource teams. |
| | 16. | Collect information and data on second semester activities. |
| May | 17. | Conduct end of year testing. |
| | 18. | Conduct end of year staff interviews. |
| June | 19. | Compile and interpret data and information. |
| | 20. | Prepare end of year Evaluation Report #2. |
| | 21. | On-site report to review and revise goals and objectives of the project. |
| July | 22. | Review and revise evaluation procedures and objectives. |
| | 23. | Submit materials to reference resource teams as they are completed. |

| | | |
|---|---|---|
| | 24. | Interim reference resource teams report. |
| September | 25. | Interim on-site visit. |
| | 26. | Develop strategies for second year of evaluation of program. |
| October | 27. | Submit new materials to reference/resource team. |
| | 28. | Evaluate processes and materials from output from reference/resource teams. |
| November | 29. | Submit interim report from reference/resource teams. |
| January | 30. | Meet with project director for evaluation interaction of materials and processes. |
| February | 31. | Prepare Evaluation Report #3. |
| April | 32. | Collect remaining data from reference/resource teams. |
| May | 33. | Design evaluation instrument to provide feedback. |
| | 34. | Submit Final Evaluation Report of the project. |